

# APPLICATION FOR THE CLEAN OHIO CONSERVATION FUND SUMMARY SHEET

APPLICANT: Hamilton County Park District CODE # 061-02037

DISTRICT NUMBER: 2 COUNTY: Hamilton DATE 10/16/09

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PROJECT NAME: Avoca Expansion Acquisition

## ELIGIBLE APPLICANT

(Check Only 1)

- ☐ A. County (1)  
☐ B. City (2)  
☐ C. Township (3)  
☐ D. Village (4)  
☐ E. Conservancy District (6)  
☐ F. Soil & Water  
 Conservation District (7)  
☐ G. Joint Recreational District (8)  
☒ H. Park District/ Authority (9)  
☐ I. Nonprofit Organization (10)  
☐ J. Other \_\_\_\_\_ (11)

## PROJECT TYPE

(Check Largest Component)

- ☐ A. Open Space (7)  
☒ B. Riparian Corridor (8)

## PRIMARY PROJECT EMPHASIS 4, 7, 10

7. Preserves or restores flood plain and streamside  
 forest functions  
 10. Preserves or restores functioning flood plains  
 4. Preserves high quality, viable habitat for plant and  
 animal species

## ESTIMATED TOTAL

## CLEAN OHIO CONSERVATION

PROJECT COST (from 1.1f): \$ 950,225.00 FUNDING REQUESTED: (from 1.2e) \$ 712,669.00

NRAC APPROVAL - To be completed by the NRAC Committee ONLY

GRANT: \$ \_\_\_\_\_

## FOR OPWC USE ONLY

PROJECT NUMBER: \_\_\_\_\_

APPROVED FUNDING: \$

Local Participation \_\_\_\_\_%

Project Release Date:

Clean Ohio Fund Participation \_\_\_\_\_%1

## 1.0 PROJECT FINANCIAL INFORMATION

### 1.1 PROJECT ESTIMATED COSTS: TOTAL DOLLARS In Kind Dollars

(Round to Nearest Dollar) (See definition in instructions.)

- a.) Acquisition Expenses: \$ 936,000.00 \_\_\_\_\_  
     Conservation Easement  
     Purchase \$ .00  
     Easement Purchase \$ .00  
     Other Earnest Money \$ .00
- b.) Planning and Implementation: \$ 5,625.00 \_\_\_\_\_  
     Appraisal \$ 1,250.00  
     Closing Costs \$ \_\_\_\_\_  
     Title Search \$ \_\_\_\_\_  
     Environmental Assessments \$ 1,375.00  
     Survey \$ 3,000.00  
     Other Eligible Costs \$ \_\_\_\_\_
- c.) Construction or Enhancement of Facilities: (Reforestation) \$ 8,600.00 \_\_\_\_\_  
     Restoration Cost  
     6 wood duck boxes installed  
     invasive plant control  
     In-Kind participation  
         *Wetland development*  
         *Excavation*  
         *Materials*  
         *Man-hours*
- Total \$8,600
- d.) Permits, Advertising, Legal: \$ .00 \_\_\_\_\_
- e.) Contingencies: \$ .00 \_\_\_\_\_  
     (not to exceed 10% of total costs)
- f.) TOTAL ESTIMATED COSTS: \$ 950,225.00

**1.2 PROJECT FINANCIAL RESOURCES:**

(Round to Nearest Dollar and Percent)

	DOLLARS	%
a.) In-Kind Contributions (Please define)_____	\$_____	.00
b.) Applicant Contributions (Local Funds)	\$ 237,556.00	
c.) Other Public Revenues		
Nature Works	\$_____	.00
Land Water Conservation Fund	\$_____	.00
Ohio Environmental Protection Agency	\$_____	.00
Ohio Water Development Authority	\$_____	.00
Community Development Block Grant	\$_____	.00
Ohio Department of Natural Resources	\$_____	.00
OTHER	\$_____	.00
d.) Private Contributions	\$_____	.00
<b><i>SUBTOTAL LOCAL RESOURCES:</i></b>	<b><i>\$ 237,556.00</i></b>	<b><i>25%</i></b>
e.) <b>CLEAN OHIO CONSERVATION FUND:</b>	<b>\$ 712,669.00</b>	
Funds from another NRAC	\$_____	.00
<b><i>SUBTOTAL CLEAN OHIO RESOURCES:</i></b>	<b><i>\$ 712,669.00</i></b>	<b><i>75%</i></b>
f.) <b>TOTAL FINANCIAL RESOURCES:</b>	<b>\$ 950,225.00</b>	<b>100%</b>

**1.3 AVAILABILITY OF LOCAL FUNDS:**

Please list any partnership with other sources. (i.e.; is this part of a larger project or plan):

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## 2.0 PROJECT INFORMATION

If the project is multi-jurisdictional, information must be consolidated in this section.

X Please check here if additional documentation is attached.

### 2.1 BRIEF PROJECT DESCRIPTION - (Sections A through E):

A: SPECIFIC LOCATION: Please attach a map.

PROJECT COUNTY: Hamilton PROJECT ZIP CODE: 45244

B: PROJECT COMPONENTS: Please describe the various project components.

C: PROJECT EMPHASIS AS DEFINED BY SECTIONS 164.22 (A) (B) OF THE OHIO REVISED CODE AND LISTED IN APPENDIX A: Please describe.

D: DEFINE TERMS OF EASEMENTS:  
PLEASE REFER TO SECTION 164.26 OF THE OHIO REVISED CODE.

#### E: INFORMATION REGARDING PUBLIC ACCESS

Where is the access located? Is it open to the general public or are there restrictions? What are the hours of availability? Will the general public be given the opportunity to participate in the planning of the project?

### 2.2 OWNERSHIP/MANAGEMENT/OPERATION: Please address.

## 2.0 Project Information

### 2.1 Brief Project Description

**Specific Location:** The site in this application is referred to as the Avoca Park Expansion Acquisition (AE). This site is located at 3950 Newtown Road in the eastern portion of Hamilton County along the Little Miami River and US 50, and across the river from the Hamilton County Park District owned Avoca Park and upstream from Bass Island. The site is also contiguous and downstream to Riverside Park which is an Anderson Township Park. It is within the 45244 zip code area in Anderson Township and located within the Little Miami River Watershed. See attached map (Exhibit 1 & 2). **If an on site visit is planned by the reviewers of this acquisition project, it is requested the visit be arranged with the property owner through the Hamilton County Park District.**

#### A. **Project Components:** See Attachment A.

The Avoca Expansion Acquisition, approximately 78 acres, consists of the former Indian Valley Golf Course which has been closed to the public for the past two years. The tees, greens and fairways are already barely evident as nature reclaims the area. Trees such as Sycamore, Cottonwood, Black Walnut, Hackberry and Sugar Maple divide the former fairways and line the protected riverbank along with other riparian species such as black willow and silver maple. In the former playing areas between these trees is now a rich variety of early successional plants including: tall ragweed, sneezeweed, wormwood, tall boneset, blue lobelia and smartweeds. The area now has taken on the look and feel of a savanna.



*A typical example of the existing riparian corridor on site.*



*Looking east at existing Honeysuckle in the riparian corridor.*

Approximately 20 acres of riparian forest along the river's edge has Amur honeysuckle in the understory which has suppressed native plant growth. This has contributed to erosion of the riverbank. Any restoration of the site should include the elimination of Amur honeysuckle. The gravel trails that functioned as cart paths are also becoming difficult to locate in many areas as plants rapidly reclaim the area. One of these previously disturbed paths could be utilized as a base for a future bike trail that would connect Riverside Park to the existing Little Miami

Scenic Trail.

The trail construction is not a part of this application.

**C. Project Emphasis – See Attachment A**

**OPEN SPACE**

- X 1. Reduces or eliminates non-native, invasive species of plants, and revegetates with native species.**
- X 2. Preserves or increases high quality, viable habitat for plant or animal species, where the forest canopy or native vegetation covers greater the 50% of the area.**

**Restoration**

**Invasive Plant Removal**

The HCPD will restore this site by removing approximately 20 acres of invasive Asian Bush Honeysuckle along the existing riparian corridor. The honeysuckle plants will be sprayed with a glyphosate herbicide during the fall of 2010. HCPD staff will hire a contractor to perform this task and will require that they control at least 80% of the honeysuckle. The contractor along with staff will inspect the site in one year to determine their success and will provide appropriate services at that time to reach the 80% control. When the contractor has successfully fulfilled their contract, the site will require routine maintenance by staff to prevent non-native invasive plants from re-establishing. Initial control of honeysuckle and other invasive plants will take a full growing season to complete. A survey will be completed the following season to prescribe specific maintenance where needed. Afterwards, a foliar application will need to be applied every three years for the next nine years. By doing this, the banks along the river will start establishing themselves with native plant species which will help support this eroding streambank.

**Wildlife Habitat introduction**

Approximately 50% of the site contains tree growth. The remaining portion of the site is already regenerating into a more natural state. The staff will allow this process to continue to create a robust habitat for native flora and fauna. When complete, the entire site will consist of native habitat. Yearly maintenance will occur by the HCPD to ensure invasive plants are kept under control.

Staff will also install nesting habitats for Wood Ducks throughout the site. Wood Ducks are seen along this river frequently and installing these will help provide needed nest sites.

In addition, one of the Park District's first priorities on the site would be to perform a vascular plant survey and a cover mapping inventory on the property to identify

sensitive vegetation areas. The HCPD will also develop a Maintenance Plan based on these inventories for the site. See Exhibit 3, Habitat/Restoration Map.

**Restoration Cost**

6 wood duck boxes installed  
invasive plant control

**Total** **\$8,600**

**X 3. Includes linkages to other parks, openspace/greenspace preserves, population centers, and lower income areas.**

The AE site is contiguous to Riverside Park to the east, Avoca Park and trail corridor across the river to the north and Bass Island downstream to the west. Anderson Township Park District owns and operates Riverside Park and has included a letter of support regarding this purchase. The zoning for the site requires an easement for a bike trail. The HCPD proposed to construct this trail in the future from the existing Little Miami Scenic Trail at Bass Island through the acquisition site to Riverside Park. The property is also situated along the Little Miami State and National Scenic River.

**X 4. Supports openspace/greenspace planning and preserves lands as recommended within previously identified planning or natural resources management documents.**

This application is consistent with recommendations proposed in the **2002 Open Space Acquisition Plan** prepared by the HCPD which identifies critical properties to acquire for the purposes of greenspace preservation. See Part IV – Community Planning for more information on this element.



*Typical view of the Riparian Corridor on this site along the Little Miami River.*

**X 5. Provides access to natural areas that result in recreational, economic, or aesthetic preservation benefits.**

The AE site will be accessible by boat from the Little Miami River and a potential bike/hike trail that is being considered by the HCPD. It will connect the Riverside Park to the existing Little Miami Scenic Bike/Hike Trail.

X 6. Provides or enhances areas where safe fishing hunting and trapping may take place in a manner that will preserve balanced natural ecosystems.

The HCPD may include this site in its annual controlled bow hunting program. Six HCPD parks are currently included in this program. Prospective hunters are required to submit a registration form to the HCPD and pass a qualification process to show they demonstrate the needed hunting skills to hunt in the parks. If approved, the hunters have access to the site at a designated time determined by the HCPD during the Ohio Archery season. All hunting rules and regulations set forth by the state are followed in this culling program.



*This area of Hamilton County has a significant amount of deer. The Park District will propose culling at this site.*

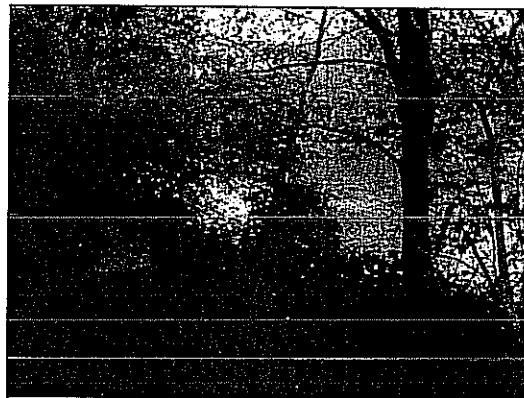
This program has been ongoing for 5 years and the participating hunters have successfully removed a total of 204 deer from Park District property. There have been no injuries during this time. The hunters participating in this hunting program also volunteer their time to help the HCPD with honeysuckle removal each winter.

## Riparian Corridor

X 7. Preserves or restores functioning floodplains, including groundwater recharge areas.

X 8. Preserves or restores natural stream channels.

The site contains a healthy riparian corridor along the Little Miami River. The entire site is located within the 100 year Floodplain. See Exhibit 4, Floodplain Map for floodplain extents. The HCPD is an experienced steward of sites located within the floodplain and will restore the riverbank to a natural native ecosystem which will help establish the bank and to provide a healthier habitat for wildlife.

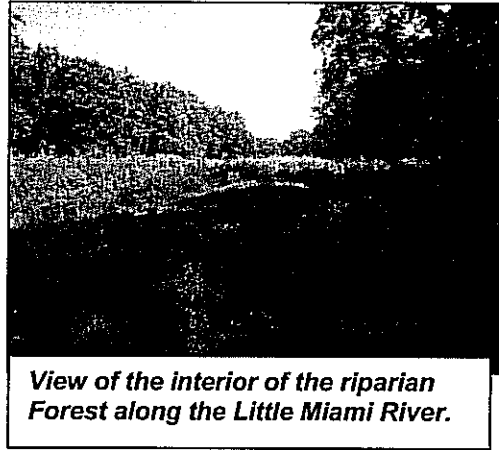


*The riparian corridor will be encouraged to mature along the river to increase habitat and slope stability.*

Staff is removing invasive herbaceous plant life on the river's edge to allow native species to re-establish themselves along the bank. Staff will monitor the site annually to evaluate the progress of succession.

**X 9. Preserves or restores streamside forest, native vegetation or adjacent habitat.**

The significant riparian buffer along the Little Miami River serves to reduce erosion, provide shade and habitat for indigenous wildlife and plants. The HCPD will ensure that this environment is preserved and allowed to mature naturally. Invasive plant materials along the river's edge will be removed by staff.



*View of the interior of the riparian Forest along the Little Miami River.*

**X 10. Preserves existing high quality wetlands or restores wetlands.**

The U.S. Department of Fish and Wildlife indicate in their mapping that the AE site does contain two wetland areas along the riverbank area; PFO1A and PSS1A. Both wetlands fall under the Palustrine classification. See below for a description of this classification. See Exhibit 4, Floodplain/Wetland Map.

[P] Palustrine - The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 ppt. Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: 1. are less than 8 hectares ( 20 acres ); 2. do not have an active wave-formed or bedrock shoreline feature; 3. have at low water a depth less than 2 meters (6.6 feet) in the deepest part of the basin; 4. have a salinity due to ocean-derived salts of less than 0.5 ppt.

**X 11. Permanent acquisition of riparian corridors, watersheds, forested hillsides or greenspace linkages.**

The AE site will be purchased through a fee simple transaction. This purchase will ensure that this greenspace will be preserved in perpetuity thus protecting floodplain property, wildlife habitat, forested areas and greenspace linkages. See Exhibit 5, USGS map.

**X 12. Plants vegetation or reforest lands for filtration to improve water quality, or to control stormwater runoff.**

One critical reason for preserving this property is its relevance to the water quality of the Little Miami River. The riverbank has many areas which are susceptible to erosion. It is important to preserve this site to ensure siltation from erosion does not enter the stream. The presence of woodland on the site has helped to reduce siltation caused from erosion on the site and the HCPD will ensure that this natural reforestation continues. The removal of honeysuckle will also help with this revegetation as native plant species will have a chance to re-establish themselves.

According to the 2008 ODNR The Little Miami River has a use designation of Exceptional Warm water Habitat (EWH) which is the highest possible for our local streams. In a 1995 report, the Bass Island site had a Use Attainment Status of PARTIAL. In the 1999 report the Use Attainment Status had raised to FULL with a "Good" Stream Quality Monitoring (SQM). FULL attainment was also reported in the 2008 report with an "Excellent" SQM. These studies indicate that there has been a steady improvement in the quality of the river reach at Bass Island documented by the ODNR's own data. Bass Island is the lowest ODNR sampling site on the Little Miami River at River Mile 8.1. Thus, it is the recipient of all of the inflows (and problems) from all of the other reaches up through and above River Mile 9.3 which is the highest sampling site along the river. Any protection of land along this river stretch will help to preserve this steady improvement in water quality. See Appendix A.

The OEPA periodically take samples along the State's waterways. In 2000 The OEPA published a report stating that they found two state threatened Mollusk and one state endangered mollusk at the 0.8 mile marker near the intersection of Newtown Road and US 50 at Bass Island which is downstream from this site. These mollusk species are discussed in more detail in Part IV, section 2.

### **Part III. Compliance with State Criteria**

1. Percentage of Clean Ohio matching funds necessary to complete project

☒ 75%    ☐ 74 - 70%    ☐ 69 - 65%    ☐ 64 - 60%    ☐ <60%

The HCPD is requesting 75% of Clean Ohio Funding for the 2009 Funding year.

2. Level of collaborative participation: Participation means active involvement through in-kind services or funding.

☐ local political subdivisions    ☐ State agencies    ☐ federal agencies

☐ community organizations    ☐ conservation organizations

☐ local business groups

3. OPWC Districts

☐ Joint project in more than one district

☐ Joint project in this district

\_\_\_\_\_ Carries out an adopted community, watershed or other plan overlapping another district

4. Community benefits: Relative economic, social and recreational benefits

  X   economic benefits

  X   social/recreational

Economic Benefits

Research has shown that the acquisition of open space in highly developed areas will reduce infrastructure costs, decrease health related costs and increase property values. Open space and trees will reduce storm water management and water quality management cost by the open land absorbing much of the runoff caused by development. It also allows the water more time to filtrate through the greenspace to improve its water quality. The presence of preserved trees on site also creates a process called transpiration which helps to purify air quality in the county, which currently is in noncompliance with the Environmental Protection Agency. This process would help reduce air quality related health costs, such as treatment for lung cancer, asthma and other respiratory diseases that are common in Hamilton County.

Social/Recreational Benefits

Anderson Township zoning requires an easement on this property for a future bike trail. It would connect to the Little Miami Scenic Trail and Riverside Park. The HCPD proposes this trail for future development. The site can also be accessed by boat along the river.

5. **Extent of public Access once project is complete.**

The AE property purchased by the HCPD will be open to the public daily from dawn to dusk. The HCPD is investigating the potential for a bike/hike spur path through this site to connect the existing Little Miami Bike/Hike Trail to Riverside Park.

6. **Operation and Maintenance once project is completed.**

Ownership/Management

The HCPD will purchase the AE through fee simple acquisition. The property will be managed as a natural greenspace in perpetuity.

Maintenance/Operations

The property will be maintained by standard land management and operational practices implemented by the Hamilton County Park District staff. The HCPD is an experienced and successful steward of land and is currently responsible for successfully maintaining and operating approximately 13,000 acres of natural

area within the park system. HCPD has managed over 16,000 acres, 80% of which remain in a natural state. The HCPD has six full time Stewardship staff and four part time staff which are responsible for maintaining the natural areas within the park.

The staff will monitor and maintain this site with site visits to evaluate the site's progress and make appropriate amendments and control weeds until the native plantings have established themselves naturally. After the area is established, staff will continue to monitor the site to ensure it is a healthy environment.

See the description for the HCPD's Storm Water Management Program in part IV, #1 for a detailed description of it's maintenance program.

**7. Project Management Experience of similar or related projects.**

Below are three examples of previous fee simple land acquisitions which were similar to the AE. In addition to these sites, the HCPD has successfully completed over 90 fee simple land acquisitions in the past 10 years.

Previous similar Fee Simple Acquisitions – All the below projects were Clean Ohio projects which were similar to this application. All properties noted below are a part of the 2002 Open Space Acquisition Plan prepared by the HCPD.

- **Stewart property, Mitchell Memorial Forest Expansion**, 17 acres, This land was purchased to preserve greenspace as well as expand the existing Mitchell Memorial Forest, owned by the HCPD. A portion of this property was in the Great Miami River floodplain.
- **Summe Property, Whitewater Riparian Expansion – phase 2** – 130 acres. This land was purchased to preserve valuable riparian corridor along the Whitewater River. The Land Management department for the HCPD planted the site with a wet prairie seed mix to increase the diversity of the habitat on site and to aid in storm runoff into the Whitewater River. This prairie restoration is the largest accomplished to date by the Park District. Additional trees were also planted along the forest to increase its riparian corridor.
- **Oak Glen Expansion Acquisitions** – 192 acres – These two properties were purchased to increase the acreage at a newly established greenspace within the Hamilton County Park District's ownership and stewardship. Restoration of this site will begin this fall.

## Part IV. Compliance with Hamilton County Priorities

### 1. Community Planning –

The HCPD has been actively pursuing properties along the County's streams and rivers to preserve these areas and make them accessible to the public. This project will help to secure needed riparian corridors.

The HCPD's priority to preserve greenspaces in Hamilton County is reflected in the Hamilton County Planning Commission's Community Compass Report No. 16-6 "State of the county Report: Environment. It states that "Whereas past conservation efforts often focused on protecting individual pieces of land, emphasis is now being placed on the need to provide for green infrastructure. Green infrastructure provides a framework for creating an interconnected network of natural streams, conservation lands, working landscapes and other green spaces that support native species, maintain natural ecological processes, sustain air and water resources, and contribute to the health and quality of life for American's communities and people".

The preservation of riparian greenways is a paramount concern for many municipalities, including those mentioned above, and the acquisition of these riparian properties will move the county closer to preserving the riparian corridor along the Little Miami River.

This acquisition will also comply with the EPA mandated and approved **Storm Water Management Program** for HCPD.

In March 2003, HCPD completed this mandated plan that defines HCPD's stewardship practices for all existing and newly acquired greenspaces. This program was approved by the OEPA in 2003, providing the Park District with a five year permit for projects occurring during that time. OEPA recently updated the HCPD's permit until January 2014. The HCPD is required by law to implement all stewardship and development guidelines as set forth in our Storm Water Management Program to ensure the greenspaces are managed per the OEPA's standards.

This program outlines the major components of HCPD's stewardship practices. They include: preserving open space; performing environmental assessments on potential acquisitions, reducing impervious surfaces on site's, and reforesting sites.

Although the Park District officially commenced this program in 2003, it has been utilizing many of the practices for decades. The Park District has been protecting significant greenspace for many years. In 1985, the Hamilton County Park District embarked on a program of identifying and removing paved surfaces. Approximately fifteen (15) acres of pavement have been removed.

The Park District also makes it a practice to remove buildings acquired with new properties unless they can be retro-fitted for public. Over the past twenty-five years, the Hamilton County Park District has removed over 90 structures. The HCPD will remove any unnecessary cart paths and other hard surfaces to help the site regenerate more quickly.

Since the mid 1970's the Hamilton County Park District has been reducing acreage of park areas regularly mowed to create more buffer and wildlife habitat. In 1991, the Park District began a program to convert cultivated cropland into natural areas. In the past decade, approximately 150 acres of farmland have been converted into wetlands and 300 acres converted to prairie or meadow habitat. In all cases, native plant species were used. These plants were collected within a 150-mile radius of Hamilton County or raised in the Park District's native seed nursery. The use of native species improves the chance of plant survival. The use of prairie species has the additional benefit of a deep root system that maximizes soil retention and evapotranspiration thus reducing runoff. There are approximately 200 acres of farmland that the Park District plans to convert, mostly to prairie, during the next five years.

**2. Natural Resource Viability: How important is the project to the viability of the natural resources affected by the project.**

***Protects 1-5 State Natural heritage Inventory (NHI) ranked rare species***

It has been documented by Michael A. Hoggarth in the peer reviewed Journal of Walkerana, 1992. He is employed with Otterbein College in the Department of Life and Earth Science in Westerville, Ohio. He found that one State Endangered mollusk species, *Quadrula nodulate*, Wartyback and two (2) State threatened Mollusk, *Obliquaria reflexa* and *Trucilla donaciformis* were found in the Little Miami River at Bass Island which is adjacent to the acquisition site. Mr. Hoggart is a respected scientist in the field and has published numerous journals regarding this speciality. A complete listing of the mollusks species found in the peer reviewed journal study is listed in Appendix B.

***Protects a threatened biological community or important example of Ohio's natural heritage.***

The AE site is within an area that has historically uncovered many archeological relics. Three sites that have been excavated close to this site have all contained significant items. The Little Miami River has been proven to be rich in archeological remains. Numerous archeological digs have been performed up and down the river such as the one at Turpin Farms approximately 2.5 miles down river, at the Riverside Park directly adjacent to the site and at the Little Miami Golf Center. Below is an excerpt from the Scholarly Journal of the Ohio Historical Society, Volume 61 referring to the Turpin Farms excavation.

"In the Cincinnati area there is a cultural complex which has only recently been recognized as belonging in a period between Hopewell

and the later Fort Ancient culture. The recognition of the correct time position of this culture is the result of the excavations of the Cincinnati Museum of Natural History. These excavations were made on the Turpin Farm on the Little Miami River near Newtown, Ohio. Here were recovered both a burial and a village complex which clearly indicate that this Late Woodland group is closely connected with many of the stone slab mounds found along the Ohio Valley, where they were placed on top of bluffs overlooking the main valley or tributary streams. Since the Turpin Farm is well known as a Fort Ancient site, it is suggested that this complex be referred to as Newtown. Many of the human remains in the small stone mound located in the village were in a fragmented condition and scattered, seemingly indiscriminately, in the mound structure. There were also a few flexed Woodland burials and a number of clearly intrusive extended Fort Ancient burials. At this particular site there is little or no indication of a gradual development from the Newtown Focus into the Turpin Component of the Fort Ancient culture. There are, however, indications of continuity from the preceding Hopewell period into the cultural complex of the Newtown Focus in such things as grooved axes, gorgets, stemmed and notched projectile points, notched scrapers, and beaming tools". See Appendix C.

**3. Project preserves or naturally restores steep hillsides with slopes greater than 20%:**

The majority of the site is relatively flat, however there is a severely sloping bank along this portion of the Little Miami River embankment which has a propensity to erode if not adequately stabilized. A tributary on site feeding the river also has significant slopes which will benefit from reforestation. By preserving and managing this tract of land, the HCPD will monitor the streambank's stability and take necessary measures to plant appropriate plant life to help stabilize its banks.

**4. Preserves or enhances undeveloped lands along viewsheds of major highway**

This property is visible from US 50 which has an average daily traffic volume of approximately 22,300 vehicles according to the Ohio Department of Transportation (ODOT) 2005 Traffic Counts. The latest counts were tallied in 2005. The preservation of this property will protect the aesthetic quality of the viewshed along this corridor. The ODOT Hamilton County traffic count map is included in Appendix D.

**5. Project protects headwater streams:**

N/A

**6. Protection of highly erodable lands:**

The AE site lies entirely within the Little Miami River floodplain. The site is primarily flat with the exception of the bank along the river and a tributary which slopes severely in places, well exceeding 20%, with some erosion problems. The site lies primarily within the Jules silt loam, Ju soil classification with small portions falling within the EpC2 and Gn.



*View of erosion along the tributary on site feeding the Little Miami River.*

Ju classification ranges from 0% to 2% in slope with well drained soils located on floodplains. Flooding can occur in this soil type at any time of the year, but generally floods in spring. All of these flood events are generally brief in nature. The Ju classification is generally found in areas ranging in size from 10 to 2,500 acres.

Permeability is moderate to moderately rapid in this classification. It is suitable for crop lands, but is also well suited to trees and to habitat for openland and woodland wildlife which is consistent with the HCPD's plans to enhance the riparian corridor.

Gn, Genesee Loam, occasionally flooded, this deep, nearly level well drained soil is on flood plains. It is subject to occasional brief flooding. Slope is 0 to 2%. Permeability is moderate. The available water capacity is very high, and runoff is slow. The organic matter content is moderate. This soil is used mainly as cropland. This soil is highly fertile and well suited to trees. The soil is also well suited to use as habitat for open land and woodland wildlife.

EpC2, Eldean loam, 6 to 12%, this deep sloping well drained soil is on stream terraces adjacent to flood plains, along waterways, and on slope breaks between terraces. Erosion has removed part of the original surface layer and subsoil material has been tilled into the present surface layer. Most areas are long and narrow and range from 5 to 20 acres in size. Permeability is moderate or moderately slow in the subsoil and rapid or very rapid in the substratum. The root zone is mainly moderately deep to sand and gravel. See Exhibit 6, Soil Map.

**7. Project address a situation where action must be taken now or opportunity will be lost forever:**

N/A

**Readiness to proceed**

The HCPD has secured all the needed documents and has completed negotiations with the owner of the AE site. HCPD is ready to proceed immediately upon notice of acceptance of Clean Ohio Conservation funding.

**Define Terms of Easement**

RESTRICTIVE COVENANT - "8. RESTRICTIVE COVENANT: For the (Floodplain Area) only, in the event that the BUYER is successful in their grant application, the deed from the SELLER shall contain the following additional restrictive language " Little Miami River - Horizon Community Church - Buyer agrees to perpetually keep this property in greenspace for the protection of Little Miami River Floodplain and forest areas included herein. Potential development of this property will be for providing appropriate access for outdoor recreation and will be limited to improvements that do not harm said areas and will be planned, implemented and managed following best management practices. Buyer or assigns will be permitted to perform limited streambank erosion correction and enhancement projects that do not channelize the stream corridors (best management practices would include wetland creation and enhancement, use of bioengineering techniques, small impoundments where appropriate to create additional wetland areas, planting of appropriate wetland species to increase the biodiversity, etc.). Public access into and through the site will be provided by the Buyer in a relatively narrow corridor through the property designed to connect with other properties owned or eventually controlled by Buyer. Buyer agrees that the Deed Restrictions shall be perpetual and shall not be amended, released, extinguished or otherwise modified without the prior written approval of the Director of the Ohio Public Works Commission (OPWC), at the Directors sole and absolute discretion, who shall have full enforcement authority with respect to the Deed Restrictions. If any amendment, release, extinguishment or other modification of the Deed Restrictions should occur without the prior written approval of the Director, Buyer or its successors and assigns as owner of the Land or interest therein, shall pay to the OPWC upon demand from the Director an amount equal to the greater of: (a) 200 percent (200%) of the Funds disbursed by the OPWC for the Project, together with interest occurring thereon at a rate equal to 6 percent (6%) per annum from the date of disbursement; or (b) 200 percent (200%) of the fair market value of the Project."

### 3.0 PROJECT SCHEDULE:\*

		BEGIN DATE	END DATE
3.1	Planning and Implementation:	<u>  /  /  </u>	<u>  /  /  </u>
3.2	Land Acquisition/Easements:	<u>10/16/09</u>	<u>10/16/10</u>
3.3	Site Improvements:	<u>9/1/10</u>	<u>12/30/11</u>

\* Failure to meet project schedule may result in termination of agreement for approved projects. Modification of dates must be requested in writing by a project official of record and approved by the commission once the Project Agreement has been executed.

### 4.0 PROJECT OFFICIALS:

4.1	CHIEF EXECUTIVE OFFICER	Jack Sutton
	TITLE	Director
	STREET	10245 Winton Road
	CITY/ZIP	Cincinnati, OH 45231
	PHONE	(513) 521-7275
	FAX	(513) 521-2606
	E-MAIL	jsutton@greatparks.org
4.2	CHIEF FINANCIAL OFFICER	Thomas Kaluba
	TITLE	Treasurer
	STREET	10245 Winton Road
	CITY/ZIP	Cincinnati, OH 45231
	PHONE	(513) 521-7275
	FAX	(513) 521-2606
	E-MAIL	tkaluba@greatparks.org
4.3	PROJECT MANAGER	Ross Hamre
	TITLE	Planning Director
	STREET	10245 Winton Road
	CITY/ZIP	Cincinnati, OH 45231
	PHONE	(513) 728-3551, ext. 256
	FAX	(513) 521-2896
	E-MAIL	rhamre@greatparks.org

Changes in Project Officials must be submitted in writing from the CEO or CFO.

## 5.0 ATTACHMENTS/COMPLETENESS REVIEW:

In order that your application may be processed in a timely fashion, please submit your application on 8 ½ by 11 white paper with dark ink so that it may be copied for others. It is understood that some items may not conform to this request such as large maps and photographs. Please feel free to include these items.

Confirm in the blocks [ ] below that each item listed is attached.

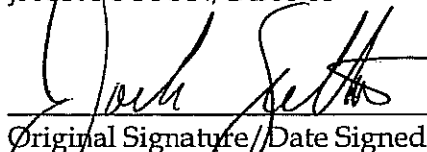
- ☒ [ X ] A certified copy of the authorization by the governing body of the applicant authorizing a designated official to sign and submit this application and execute contracts. This individual should sign under 6.0, Applicant Certification, below.
- ☒ [ X ] A certification signed by the applicant's chief financial officer stating all local share funds required for the project will be available on or before the dates listed in the Project Schedule section.
- ☒ [ X ] A formal detailed estimate of the project's costs provided by an architect, landscape architect, or other professional. For land acquisition, an appraisal by a State-certified general real estate appraiser, as defined under ORC 4763 for the type of land being appraised will need to be submitted to the NRAC prior to closing.
- ☐ [ ] A cooperation agreement (if the project involves more than one entity) which identifies the fiscal and administrative responsibilities of each participant.
- ☒ [ X ] Resolution of Support (Please refer to section 164.23(B)(1) of the Ohio Revised Code for guidance.)
- ☒ [ X ] Identification of any participation by state agencies that will provide to this particular project and that will provide assistance with respect to the project.
- ☒ [ X ] Information concerning the coordination of the project among local political subdivisions, state agencies, federal agencies, community organizations, conservation organizations, and local business groups.
- ☒ [ X ] Supporting Documentation: Materials such as additional project description, photographs, and/or other information to assist your NRAC in ranking your project. Be sure to include supplements which may be required by your *local* NRAC.
- ☒ [ X ] Have you reviewed your NRAC's methodology to see that you have addressed all components?

## 6.0 APPLICANT CERTIFICATION:

The undersigned certifies: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission; (2) to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving Buy Ohio and prevailing wages.

Applicant certifies that the project, as defined in the application, has NOT resulted in any transfer of title or rights to land or begun any type of physical improvements prior to the execution of a Project Agreement with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding.

JACK SUTTON, Director

  
Original Signature/Date Signed

10/14/09

## ATTACHMENT A

### PROJECT EMPHASIS (Avoca Expansion site)

NOTE: IF THE PROJECT HAS MORE THAN ONE EMPHASIS, PLEASE PLACE A "1" IN THE CATEGORY THAT IS THE PRIMARY EMPHASIS, A "2" IN THE CATEGORY WITH SECONDARY EMPHASIS, AND A "3" IN THE CATEGORY WITH THIRD EMPHASIS.

#### OPEN SPACE

- ☐ 1. Protects habitat for rare, threatened and endangered species
- ☐ 2. Increases habitat protection
- ☐ 3. Reduces or eliminates nonnative, invasive species of plants or animals
- ☒ 4. Preserves high quality, viable habitat for plant and animal species
- ☐ 5. Restores and preserves aquatic biological communities
- ☐ 6. Preserves headwater streams
- ☒ 7. Preserves or restores flood plain and stream side forest functions
- ☐ 8. Preserves or restores water quality
- ☐ 9. Preserves or restores natural stream channels
- ☒ 10. Preserves or restores functioning flood plains
- ☐ 11. Preserves or restores wetlands
- ☐ 12. Preserves or restores stream side forests
- ☐ 13. Preserves or restores other natural features that contribute to quality of life and state's natural heritage

#### RIPARIAN CORRIDOR

- ☐ 14. Fee simple acquisition of lands to provide access to riparian corridors or watersheds.
- ☐ 15. Acquisition of easements for protecting and enhancing riparian corridors or watersheds
- ☐ 16. Reforestation of land
- ☐ 17. Planting vegetation for filtration
- ☐ 18. Incorporates aesthetically pleasing and ecologically informed design
- ☐ 19. Enhances educational opportunities and provides physical links to schools and after school centers
- ☐ 20. Acquisition of connecting corridors
- ☐ 21. Supports comprehensive open space planning
- ☐ 22. Provides multiple recreational, economic and aesthetic preservation benefits
- ☐ 23. Allows proper management of areas where safe hunting and trapping may take place in a manner that will preserve balanced natural ecosystems.
- ☐ 24. Enhances economic development that relies on recreational and ecotourism in areas of relatively high unemployment and lower incomes

BOARD OF PARK COMMISSIONERS  
HAMILTON COUNTY PARK DISTRICT

July 23, 2009

RESOLUTION NO. 2853

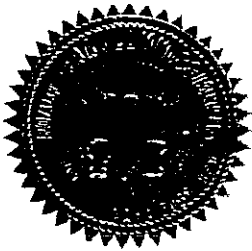
CLEAN OHIO CONSERVATION PROGRAM

WHEREAS, the Board of Park Commissioners of the Hamilton County Park District, desires financial assistance under the Clean Ohio Conservation Program Funds, administered by the Ohio Public Works Commission.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Park Commissioners of the Hamilton County Park District, as follows:

1. That the Board of Park Commissioners of the Hamilton County Park District hereby approves filing of applications for the Clean Ohio Conservation Program Funds for 2009.
2. That Jack Sutton, Director, is hereby authorized and directed to execute and file applications with the Ohio Public Works Commission, to enter into any agreements as may be appropriate and necessary for obtaining this financial assistance, and to provide all information and documentation required in said application for submission to the Ohio Public Works Commission.
3. THAT THE BOARD OF PARK COMMISSIONERS OF THE HAMILTON COUNTY PARK DISTRICT hereby does agree to obligate the funds required to satisfactorily complete the proposed projects and thus become eligible for Clean Ohio Conservation Program financial aid up to 75% of the total project costs.

BOARD OF PARK COMMISSIONERS  
HAMILTON COUNTY PARK DISTRICT



\_\_\_\_\_  
JAMES E. BUSHMAN, President

\_\_\_\_\_  
ROBERT A. GOERING, SR., Vice President

\_\_\_\_\_  
NANCY R. HAMANT, Vice President

ATTEST:

This 23<sup>rd</sup> day of July, 2009

\_\_\_\_\_  
JACK SUTTON, Director

## CHIEF FINANCIAL OFFICER'S CERTIFICATION OF LOCAL FUNDS

October 16, 2009

I, Thomas Kaluba, Treasurer of the Hamilton County Park District, hereby certify that Hamilton County Park District has the amount of \$237,556.00 in the Land Acquisition Fund and that this amount will be used to pay the applicant revenues for the Avoca Acquisition project.

  
\_\_\_\_\_  
Thomas Kaluba, Treasurer

# **Land Appraisal Report**

**Execution Copy**

**Purchase Agreement – Horizon Community Church 77.1 Acres**

October 13, 2009

This Purchase Agreement is between; Horizon Community Church (a Nonprofit Corporation incorporated in Ohio as # 1033910 on September 9, 1998 with a current status as Active) whose address is Suite 400, 7800 Laurel Avenue, Cincinnati, Ohio 45243 ("SELLER") and the Board of Park Commissioners of the Hamilton County Park District with a mailing address of 10245 Winton Road, Cincinnati, Oh. 45231 or its assigns ("BUYER").

**WITNESSETH:**

WHEREAS, BUYER desires to acquire certain real property for expansion of the Little Miami River preserved area; and

WHEREAS, SELLER owns real property which is in the vicinity of said park;

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, the parties agree as follows:

1. **CONTRACT TO PURCHASE:** For and in consideration of \$25,000, payable by BUYER to SELLER at the time of execution of this Purchase Agreement ("EARNEST MONEY"), the receipt of which is hereby acknowledged, SELLER hereby grants to BUYER the exclusive right to purchase in fee simple and BUYER agrees to purchase the real estate described below.
2. **PROPERTY DESCRIPTION:** The portion of the SELLERS real estate (as shown on Attachment 1 map in Orange) consisting of approximately 77.1 Acres of river floodplain ("Floodplain Area") and approximately 1.066 acres ("Former Clubhouse site") that excludes the former cart path bridge over Dry Run Creek to be surveyed and cut-up from SELLERS total parcels identified in Hamilton County Auditor's Map Plat Books (the Floodplain Area and Former Clubhouse Site being collectively referred to as the "REAL ESTATE"), to be surveyed and cut-up from SELLERS total parcels identified in Hamilton County Auditor's Map Plat Books as follows:
  - A. 500-0240-0001, & 500-0310-0053 (Con);
  - B. 501-0003-0050 & 501-0011-0002 (Con);
  - C. 501-0011-0079
  - D. 501-0011-0078
  - E. 501-0011-0080
3. **PRICE AND TERMS:** The agreed upon price for this REAL ESTATE is the sum of \$12,000 per acre for approximately 77.1 acres of river (Floodplain Area) and \$29,436.50/acre for approximately 1.066 acres (Former Clubhouse site) with the acreage to be determined by survey ("PURCHASE PRICE"). The per acre prices described above shall be pro-rated for portions of an acre.
4. **EARNEST MONEY:** All of the EARNEST MONEY (\$25,000) is to be credited towards the PURCHASE PRICE unless:
  - A. If SELLER breaches this Agreement, or if BUYER notifies SELLER by the end of the Inspection Period that BUYER is terminating this Agreement in accordance with paragraph 6 hereof, the EARNEST MONEY will be refunded in its entirety to BUYER within seven days of written notice from BUYER.
  - B. If BUYER breaches this Agreement, or if (i) BUYER gives SELLER the Satisfaction Notice described in paragraph 6 hereof, and (ii) BUYER receives OPWC funding for the purchase and then fails to purchase the REAL ESTATE on or before the closing date, the EARNEST MONEY

may be retained by SELLER. The forfeiture of the EARNEST MONEY will be the only consequence placed upon BUYER if BUYER breaches this Agreement.

- C. As a condition of this contract, the BUYER intends to submit an application for matching grant money for this purchase (Floodplain Area) from the Clean Ohio Conservation Program Fund administered by the Ohio Public Works Commission (the "OPWC") in the amount of up to 75% of the purchase price. The grant submission deadline is October 16, 2009 under Round 6 funding. The BUYER anticipates receiving notice by the end of February, 2010 of the award of the funding, at which time BUYER will notify Seller in writing of the grant status. If the BUYER is granted the Round 6 funding, the earnest money amount of \$25,000.00 shall be applied to the Purchase price.
5. SURVEY COSTS: BUYER and SELLER agree to have the property surveyed by Lee Nordloh (in conjunction with Nichols Surveying) at a cost of \$ 5,900.00 with both parties agreeing to prorate the cost based upon the final acreage purchased by the Buyer and retained by the Seller. The result of the final gross survey acreage will be used in the purchase price calculations based upon both the (Floodplain Area) and (Former Clubhouse site).
6. INSPECTIONS: SELLER grants BUYER the right to conduct any additional standard inspections of the REAL ESTATE that may be necessary including but not limited to environmental studies and test borings, if needed, and building inspections. BUYER will exercise caution with any inspections.

This Agreement is subject to the following conditions, which shall be deemed satisfied or waived in the sole discretion of the BUYER within the 30-day period commencing on the date that this Agreement is accepted by SELLER (the "Inspection Period"): The BUYER shall have obtained satisfactory reports of qualified consultants regarding inspections of the Property to determine whether the condition, state of repair, zoning, soils, utilities, survey matters, marketability of title, environmental conditions and all other matters for which BUYER deems inspections to be necessary are satisfactory to BUYER in its sole and absolute discretion. During the Inspection Period, BUYER may enter the Property during reasonable business hours to conduct any tests and inspections of whatever nature BUYER deems appropriate. BUYER shall promptly repair any damage to the Property resulting from his inspections and BUYER shall hold SELLER harmless from any loss or expense arising out of BUYER's activities on the Property to the full extent of the law. All inspections are at BUYER's expense. BUYER will disclose the results of such inspections only to those persons who are assisting BUYER in its inspection and consideration of the Property, except as otherwise may be required by law.

Notwithstanding anything to the contrary in this Agreement, prior to the end of the Inspection Period, BUYER shall have sole and absolute discretion to terminate this Agreement and receive a return of the Earnest Money. BUYER shall prior to the end of the Inspection Period either notify SELLER that (i) all the conditions have been satisfied or waived (the "Satisfaction Notice"), or (ii) any condition has failed or BUYER is otherwise terminating this Agreement, in which event SELLER shall return to BUYER the Earnest Money and BUYER and SELLER shall be released from all further obligations under this Agreement. If BUYER fails to deliver the Satisfaction Notice to SELLER within the Inspection Period, then BUYER will be deemed to have terminated this Agreement, SELLER will return the Earnest Money to BUYER and the parties will have no further obligations hereunder.

7. PROPERTY CLEANUP: BUYER assumes responsibilities for the former golf cart paths and irrigation system and may remove or retain these for BUYERS maintenance/operation of the site.
8. RESTRICTIVE COVENANT: For the (Floodplain Area) only, in the event that the BUYER is successful in their grant application, the deed from the SELLER shall contain the following additional restrictive language " *Little Miami River - Horizon Community Church - Buyer agrees to perpetually*

keep this property in greenspace for the protection of Little Miami River Floodplain and forest areas included herein. Potential development of this property will be for providing appropriate access for outdoor recreation and will be limited to improvements that do not harm said areas and will be planned, implemented and managed following best management practices. Buyer or assigns will be permitted to perform limited streambank erosion correction and enhancement projects that do not channelize the stream corridors (best management practices would include wetland creation and enhancement, use of bioengineering techniques, small impoundments where appropriate to create additional wetland areas, planting of appropriate wetland species to increase the biodiversity, etc.). Public access into and through the site will be provided by the Buyer in a relatively narrow corridor through the property designed to connect with other properties owned or eventually controlled by Buyer. Buyer agrees that the Deed Restrictions shall be perpetual and shall not be amended, released, extinguished or otherwise modified without the prior written approval of the Director of the Ohio Public Works Commission (OPWC), at the Directors sole and absolute discretion, who shall have full enforcement authority with respect to the Deed Restrictions. If any amendment, release, extinguishment or other modification of the Deed Restrictions should occur without the prior written approval of the Director, Buyer or its successors and assigns as owner of the Land or interest therein, shall pay to the OPWC upon demand from the Director an amount equal to the greater of: (a) 200 percent (200%) of the Funds disbursed by the OPWC for the Project, together with interest occurring thereon at a rate equal to 6 percent (6%) per annum from the date of disbursement; or (b) 200 percent (200%) of the fair market value of the Project." If the BUYER is not successful in the grant application or if it does not submit a grant application for funding consideration through the Clean Ohio Conservation Program, then no restrictive covenants will be placed upon this deed. If the OPWC restrictions above are not used (Floodplain Area), BUYER will manage/maintain the property in its "natural state" other than for bike and hiking trails and this sentence will survive the closing. On the Former Clubhouse site, no such restrictions apply and BUYER may develop a Ranger station or other facilities it might need on the site. If BUYER does not get the grant money BUYER may elect (at BUYER's sole choice) to proceed with the purchase using BUYER's funding only but if full local funding is not available, BUYER may terminate this contract and will receive the EARNEST MONEY back.

9. RETAINED STORM RUNOFF EASEMENT: SELLER will retain an easement for storm water run-off system that is currently being installed that will serve the existing detention basin located on the remaining church property and direct this into the Little Dry Run creek. Buyer shall have final approval of the easement legal description and the construction plans for the storm water run off detention basin, such approval shall not unreasonably withheld. The surveyor will define this easement to be the minimum size necessary to maintain the channel. Said easement shall be by separate document and made of record in Hamilton County, Ohio.
10. RETAINED TEMPORARY INGRESS/INGRESS EASEMENT: SELLER will retain a 12 foot wide temporary easement for ingress/egress for maintenance uses only (no general public access) over the existing driveway from Newtown Road (former Clubhouse service entrance), north of the former Clubhouse and down the existing drive to the former cart path system ("Temporary Easement"). This Temporary Easement serves the SELLER'S needs for access into SELLER'S approximate 10 acre area that the church will retain for its usage.
11. EASEMENT OVER THE DRY FORK BRIDGE – SELLER will grant a 20' wide easement for ingress and egress for bicycle trail use across the existing bridge over Dry Fork Creek for pedestrian and bicycle trail usage by BUYER (or assigns).
12. RELINQUISHMENT OF RETAINED TEMPORARY INGRESS/INGRESS EASEMENT: As the BUYER (or assigns) begins the process of bicycle trail planning, the church will be notified and both parties will work towards a mutually acceptable replacement/maintenance agreement of the existing bridge over Dry Run creek. It is currently contemplated that the replacement structure will be capable of serving as a bike trail bridge or crossing as well as handling the weight of routine maintenance

equipment. Within 90 days of this structure being put into service, the church will relinquish it's Temporary Easement granted in paragraph 10 in writing. This paragraph will survive the closing.

13. SELLER retains the right to cancel this contract if approval is not received from their lender for this transaction and mortgage releases are not received prior to closing. In this event, the EARNEST MONEY will be returned in its entirety to the BUYER.
14. PERSONAL PROPERTY: The following personal property shall be included in the sale: None
15. SELLER'S CERTIFICATION: SELLER certifies to BUYER that, to the best of SELLER'S knowledge:  
(a) the REAL ESTATE is being sold in "as is" condition; (b) there are no pending orders or ordinances or resolutions that have been enacted or adopted authorizing work or improvements for which the REAL ESTATE may be assessed, except None, (c) the REAL ESTATE is zoned as floodplain; (d) no Federal, City, Township, County or State orders have been served upon the REAL ESTATE requiring work to be done or improvements to be made which have not been performed, except: the structural damage/condemnation (e) there are no underground fuel tanks or other tanks that contained or now contain any hazardous waste or other toxic substance except: None ; (f) that there is and has been no discharge or disposal by SELLER of any hazardous waste or other toxic substance (as such terms are defined by any applicable federal, state or local governmental law, rule, ordinance or regulation) on the REAL ESTATE, or contamination of the REAL ESTATE by any such substances; that any storage or utilization of any hazardous or toxic substance is fully described in the attached Exhibit "A" hereto; and that any such storage or utilization is, and has been at all times, in full compliance with all applicable federal, state or local laws, rules, ordinances and regulations.
16. CONVEYANCE AND CLOSING: If the OPWC Round 6 is granted, the closing will be held on May 31, 2010 or on such earlier date as the parties may agree. BUYER shall be responsible for transfer taxes (but is tax exempt) and SELLER shall be responsible for deed preparation. SELLER shall convey marketable title to the REAL ESTATE by Fee Simple General Warranty Deed, free, clear and unencumbered as of the closing, except restrictions and easements of record which do not adversely affect the REAL ESTATE, except None, and except the following assessments (certified or otherwise): None. BUYER shall have the right to cancel this Agreement in the event that any encumbrances or liens or other significant concerns are found upon the title that cannot be resolved in an expeditious manner by SELLER, and SELLER shall immediately return the EARNEST MONEY to BUYER.
17. OCCUPANCY: Occupancy will be at the closing with any materials left on-site as of the date of closing forfeited.
18. SOLE CONTRACT: The parties agree that this Agreement constitutes their entire agreement and that no oral or implied agreement exists. Any amendments to this Agreement shall be made in writing, signed by all parties and copies shall be attached to all copies of the original Agreement. This Agreement shall be binding upon the parties, their heirs, administrators, executors, successors and assigns.
19. PROPERTY TAXES: Property Taxes will be prorated to the day of the closing based on the most recent available tax duplicate or invoices. BUYER agrees to promptly pay to SELLER any amounts received by or credited to BUYER representing a refund or credit of real property taxes for any period prior to the closing date, whether arising by exemption of the property from taxes, reduction in the taxable value of the property for tax year 2010 or prior years, or otherwise.
20. EXPIRATION AND APPROVAL: This Agreement is null and void if not signed by the BUYER and SELLER in writing on or before 5:00 o'clock (P.M.) CINCINNATI TIME, by October 13<sup>th</sup>. 2009. The SELLER has read, fully understands and approves the foregoing offer and acknowledges receipt of a signed copy.

21. ACTION BY SELLER: The undersigned SELLER has read and fully understands the foregoing Agreement and accepts said offer on this 13th day of October, 2009, and agrees to convey the REAL ESTATE to BUYER according to the above terms and conditions:

SELLER: HORIZON COMMUNITY CHURCH

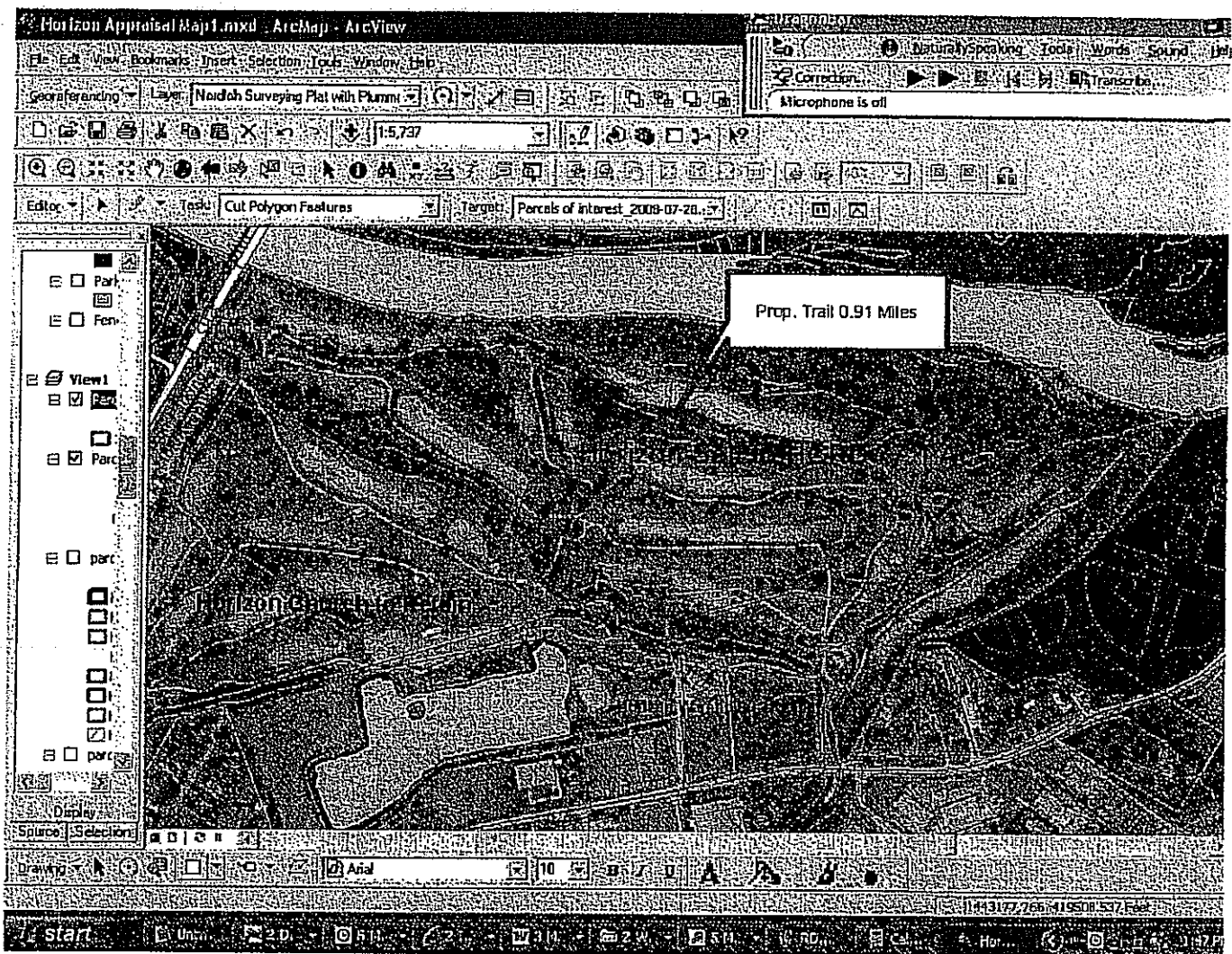
By:   
Philip M. Charlton, Chief Operating Officer

ACCEPTANCE by the BUYER: The Board of Park Commissioners of the Hamilton County Park District hereby accepts the above Agreement on this 13th day of October, 2009 year 3:30 time.

BUYER:   
Jack Sutton, Director

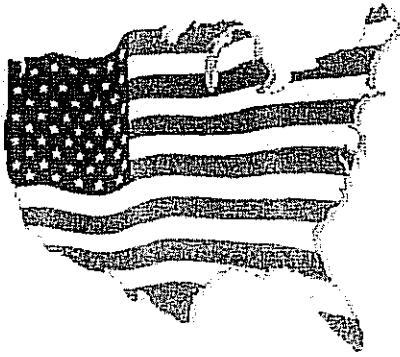
ADDRESS OF BUYER: **Hamilton County Park District**  
10245 Winton Road  
Cincinnati, Ohio 45231 (513) 521-PARK

(This is a legally binding contract. If not understood, seek legal advice.)



\\HCPD-Planning\planning\Property\Land Acquisition\Little Miami River General\Indian Valley Golf Course (LMR050)\Negotiation Letters\Purchase Contract-Execution Copy (from draft 8) Horizon Church HCPD (00323606)from Baron.DOC

CINLibrary 0014293.0474898 2019416v2



## *Appraisal Company of America*

September 14, 2009

Mr. Rick Johnson  
Planning Director  
HAMILTON COUNTY PARK DISTRICT  
10245 Winton Road  
Cincinnati, OH 45231

RE: Fee Simple Estate  
E/S of Newtown Road &  
N/S of Round Bottom Road  
(Common Address 3950 Newtown Road)  
Anderson Township & Village of Newtown  
Hamilton County, OH 45244  
83.00± Acres (Unimproved)  
Part of Plat Book 500, Page 240, Parcel 1  
Part of Plat Book 501, Page 11, Parcel 2

Dear Mr. Johnson:

As you requested, the undersigned appraiser has conducted the property re-inspection, as well as the market investigation and analysis necessary to form an opinion of the current market value of the fee simple estate in the referenced property.

As a result of the investigation and analysis, it is my opinion that the current market value of the fee simple estate of the subject real estate, as of September 8, 2009, is herewith set forth:

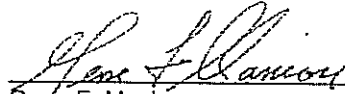
"As Existing & Unimproved"	...	<u>\$996,000.00</u>
		(\$12,000.00 per Acre)

The current market value estimate is associated with an estimated reasonable marketing/ exposure period of approximately 12 months.

5981 HARRISON AVENUE • SUITES 5 & 6 • CINCINNATI, OHIO 45248  
Phone: 513-922-2600 • Fax: 513-922-8311

The accompanying appraisal, summary report, containing the market data together with the appraiser's logic, reasoning, analysis and professional judgment, is the basis of the value conclusion. The value estimate is subject to the limiting conditions contained therein. The appraisal report has been prepared in accordance with the Uniform Standards of Professional Appraisal Practice (USPAP).

Respectfully Submitted,

A handwritten signature in cursive script, appearing to read "Gene F. Manion", is written over a horizontal line.

Gene F. Manion  
Appraiser

## SUMMARY OF SALIENT FACTS AND CONCLUSIONS

### PROPERTY TYPE:

83.00 Acres of unimproved land with flood plain influences.

### ZONING:

Anderson Township: H-Riverfront  
Village of Newtown: ORP (Office Research Park)

### PROPERTY LOCATION:

Common Address: 3950 Newtown Road  
Lands under appraisal are located in the Village of Newtown &  
Anderson Township, Hamilton County, Ohio 45244

### AUDITOR'S REFERENCE #:

Hamilton County Auditor's Parcels:  
500-0240-0001-00  
501-0011-0002-00

### OBJECTIVE OF APPRAISAL:

Estimate the market value of the fee simple estate, as of the  
effective date of September 8, 2009.

### REPORT DATE:

September 14, 2009

### EXPOSURE TIME:

Twelve (12) months

### INTENDED USE OF REPORT:

The intended use of this appraisal report is to establish Market  
Value for the fee simple estate.

### INDICATIONS OF VALUE:

COST APPROACH	... NOT APPLICABLE
SALES COMPARISON APPROACH	... \$996,000.00
INCOME CAPITALIZATION APPROACH...	NOT APPLICABLE

### FINAL VALUES:

\$996,000.00

CERTIFICATION

Gene F. Manion is certified as a General Real Estate Appraiser by the State of Ohio (Certificate No. ACG.0000383256).

That by reason of my investigation and by virtue of my experience as an appraiser, I have formed the opinion that the pertinent value associated with this project can be stated as follows:

FEE SIMPLE ESTATE

83.00± Acres @ \$12,000.00 per acre = \$996,000.00

  
\_\_\_\_\_  
Gene F. Manion  
Appraiser

## **PROPERTY DATA**

### **Identification**

The Hamilton County Auditor's Office identifies the subject property as:

Part of Plat Book 500, Page 240, Parcel 1

Part of Plat Book 501, Page 11, Parcel 2

The same being known and numbered as:

3950 Newtown Road  
Anderson Township & Village of Newtown, OH 45244

### **Title and Historical Conveyances**

The Land Records of Hamilton County verify title to the subject real property to presently reside in the name of:

Horizon Community Church  
Acquired April 2006  
155.130± Acres  
\$4,300,000.00  
\$27,719± Per Acre

### **Real Estate Taxes**

The subject of this valuation is a cutout of the greater acreage which has not specifically been valued for real estate tax purposes. The valuation for the greater acreage is herewith provided:

Note: Parcel 500-0240-0001-00

The current real estate tax valuation includes the club house, which has been razed. For purposes of this report, only the land values shall be provided.

True Value	Acreage	True Value Per Acre
\$1,965,430.00	118.04 acres	\$16,650.54

Parcel 501-0011-0002-00

This parcel is consolidated with 501-0003-0050-00, which is not part of the acreage subject to appraisal. The appraiser has no way of separating the two.

True Value	Acreage	True Value Per Acre
\$164,500.00	12.038 acres	\$13,665.06

## PROPERTY DATA

### Zoning

The subject parcels located within a flood plain are zoned H-Riverfront by Anderson Township.

The subject parcels located within a flood plain are zoned ORP (Office Research Park) by the Village of Newtown.

### Flood Map Identification

With exception to the one (1) ± acre site fronting on Newtown Road, the balance of the acreage to be appraised is in a flood plain.

Parcel 500-0240-0001-00 is in Zone A on FEMA Community Panel No. 390204 0075B.

Parcel 501-0011-0002-00 is in Zoned A & B on FEMA Community Panel No. 390230 0056, effective date December 15, 1983.

## **DESCRIPTION OF SUBJECT ACREAGE**

The acreage subject to appraisal is part of a greater parcel, which was improved with an 18-hole golf course with club house. The club house has been razed and the lands are substantially overgrown and have not been maintained.

The subject site has minimal frontage on the east right-of-way for Newtown Road (approximately one (1) ± acre which was the location of the club house), thence slopes downward approximately 15 feet below the grade of Newtown Road, thence expands in north and south direction and runs east and south to the north right-of-way for Round Bottom road, at which point the frontage is minimal and undevelopable due to the existing creek channel which runs from the east side of Newtown Road to the north side of Round Bottom Road.

There are substantial wooded areas throughout the site.

### **Configuration**

The configuration is irregular.

### **Topography**

With exception to creek channels, the topography is considered predominantly level.

### **Utilities**

Public electric, water and natural gas serve the acreage; sanitary sewer is available on the west side of Newtown Road. The Metropolitan Sewer District (MSD) is currently in the process of obtaining the necessary easements to provide sanitary sewer along Valley Avenue and Round Bottom Road.

## HIGHEST AND BEST USE

Highest and Best Use is defined in the 2002 edition of "The Dictionary of Real Estate Appraisal", page 135, published by the Appraisal Institute (Fourth Edition), as follows:

"The reasonably probable and legal use of vacant land or an improved property, which is physically possible, appropriately supported, financially feasible, and that results in the highest value. The four criteria the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity."

Implied in these definitions is that the determination of highest and best use takes into account the contribution of a specific use to the community and community development goals, as well as the benefits of that use to individual property owners. Hence, in certain situations, the highest and best use of land may be for parks, greenbelt, preservation, conservation, wildlife habitats and the like.

Typically, in the Highest and Best Use analysis, the appraiser addresses the highest and best use of the subject site as though vacant and available for development and as improved.

### Assuming A Vacant Site

The total acreage under appraisalment, with exception to the prior club house site, is within the flood plain, which greatly limits the legal permitted land uses. Due to the magnitude of site development costs, it is the opinion of the appraiser that development of the subject acreage would not be financially feasible.

It is the opinion of the appraiser that the most probable uses, which would satisfy the criteria for highest and best use, would be recreational, park and natural conservation lands.

### As Improved

The subject acreage under appraisalment is considered to be unimproved.

## **LAND VALUATION**

The valuation of the land has been based on the Sales Comparison Approach. In the Sales Comparison Approach method, the data regarding the sales to said property was gathered in the area of the subject property. The sales were analyzed in an effort to find similarities between the property being appraised, the value trends and characteristics as indicated by transactions in the open market.

This is basically a comparative technique. Reliable information concerning the area, market conditions and other pertinent data was obtained from reliable sources such as real estate brokers, developers, investors and lenders in the area. Factors considered were date of sale, size, locations, accessibility, frontage, utilities, zoning and highest and best use. These factors were given consideration in comparing each of the market sales to the subject property.

The following sales are considered to have utility similar to the subject. It is the appraiser's opinion that these sales provide an appropriate indication of the subject land value estimate. The unit of comparison shall be:

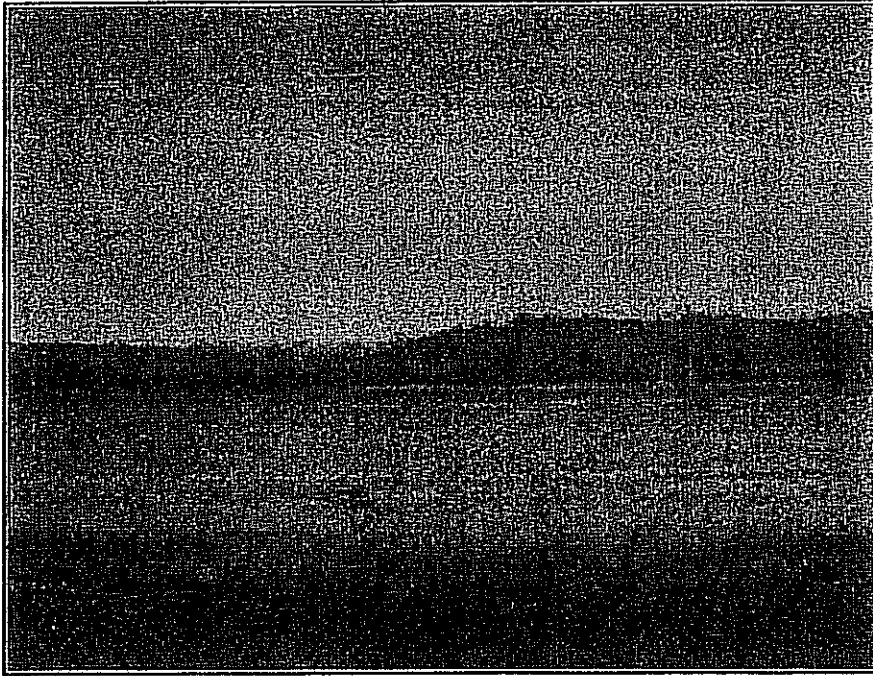
### **SALE PRICE PER ACRE**

UNDEVELOPED LAND COMPARABLE NO. 1

PLAT BOOK: 500

PAGE: 490

PARCELS: 2, 3, 4 & 5



ADDRESS: 2241-2391 Elstun Road  
Anderson Township, Hamilton County, Ohio 45230

GRANTOR: Carolyn Motz, et al                      GRANTEE: Hamilton County Park District

DATE: July 2, 2003                                      PRICE: \$827,185.58

VERIFICATION: Rick Johnson, Hamilton County Park District

CONDITION OF SALE: Arm's Length                      FINANCING: Cash to Seller

PRESENT USE: Agricultural                                      HIGHEST & BEST USE: Agricultural,  
Storage, Conservation Lands

LAND ANALYSIS:

Dimensions: 64.8773 acres                                      Total Area: 2,826,055± Sq.Ft.

Zoning: H-Riverfront    Configuration: Irregular

Topography: Predominantly Level                                      Utilities: Water & electric

APPRAISER'S COMMENTS:

The site fronts on Elstun Road and runs to the east bank of the Little Miami River. The acreage is within the flood plain.

Indicated Price:                      \$12,750.00 per acre

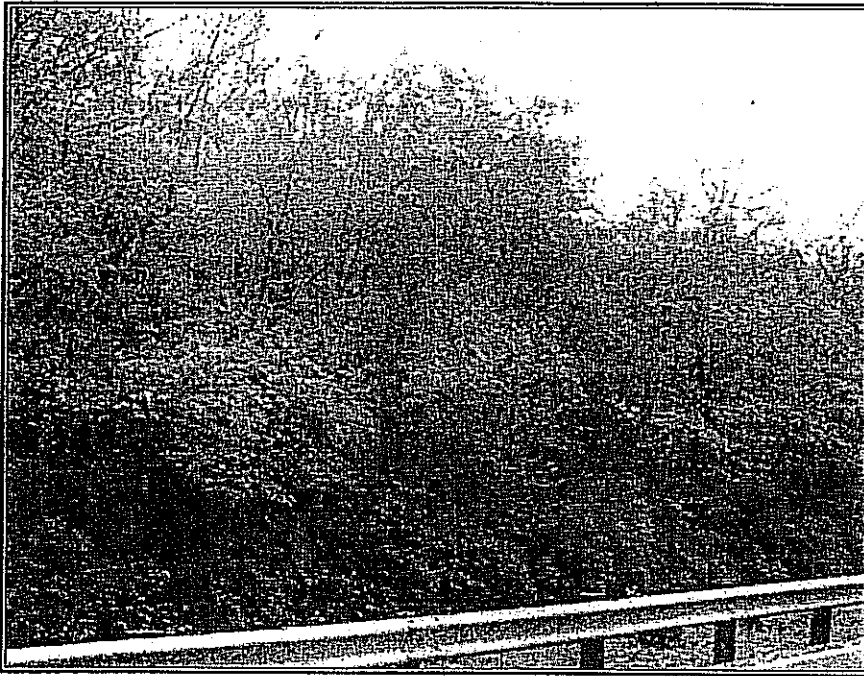


UNDEVELOPED LAND COMPARABLE NO. 2

PLAT BOOK: 500

PAGE: 330

PARCEL: 16



ADDRESS: 6755 Five Mile Road  
Anderson Township, Hamilton County, Ohio 45230

GRANTOR: Meyers, Nuetzel & Roush      GRANTEE: Anderson Township Board of Trustees

DATE: January 2005      PRICE: \$162,660.00

VERIFICATION: Anderson Township

CONDITION OF SALE: Arm's Length      FINANCING: Cash to Seller

PRESENT USE: Undeveloped, wooded, Hillside      HIGHEST & BEST USE: Land conservation - Greenspace

LAND ANALYSIS:

Dimensions: Irregular – 16.266 acres      Total Area: 708,546± Sq.Ft.

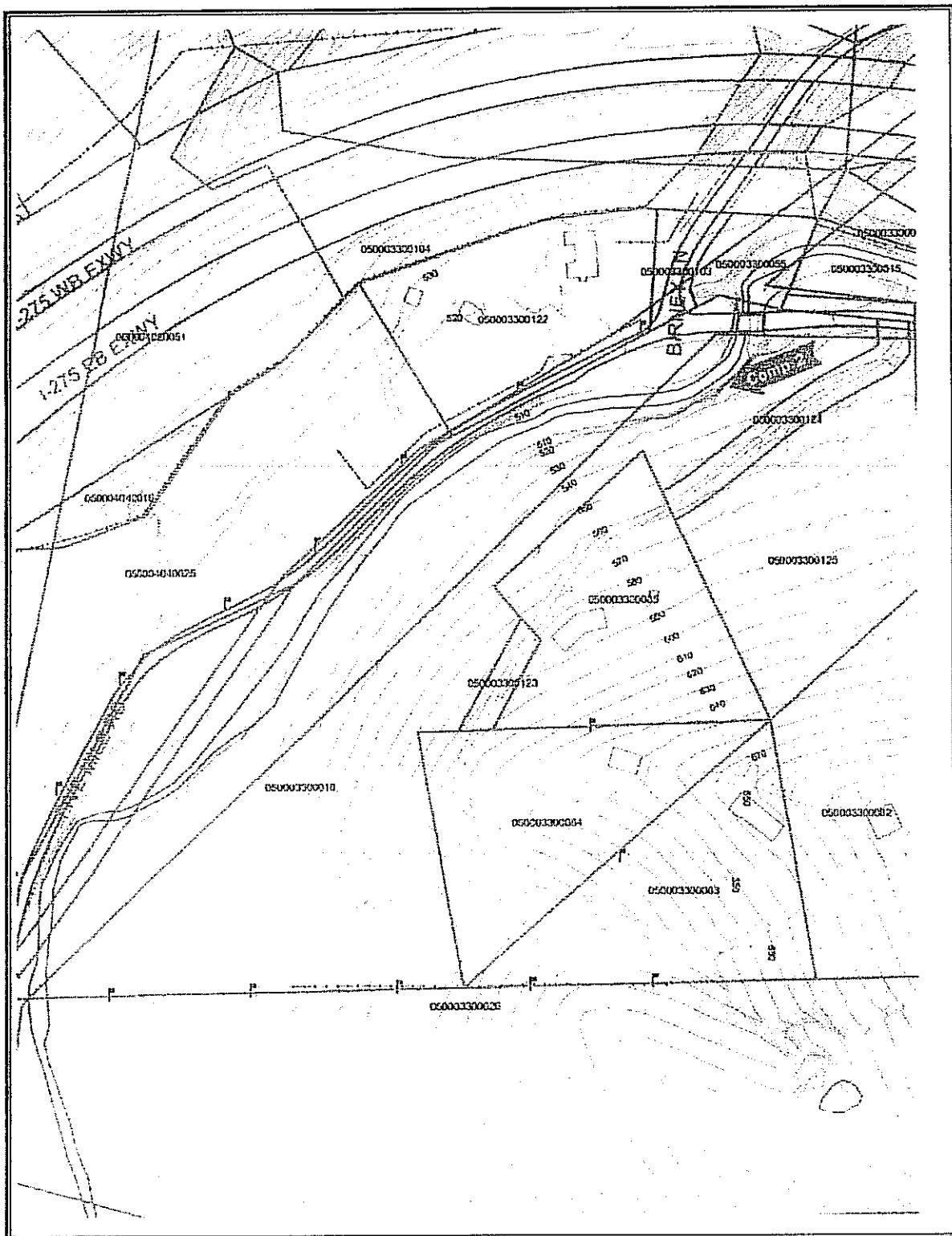
Zoning: Residential      Configuration: Very Irregular

Topography: Extreme variations      Utilities: All city utilities on Five Mile Rd

APPRAISER'S COMMENTS:

Due to the severe topography, this parcel is considered non-developable. Anderson Township purchased this acreage for conservation purposes.

Indicated Price: \$10,000.00 per acre



**UNDEVELOPED LAND COMPARABLE NO. 3**

**PLAT BOOK: 500**

**PAGE: 83**

**PARCELS: 2 & 3**



**ADDRESS:** 8485 Broadwell Road (rear)  
Anderson Township, Hamilton County, Ohio 45244

**GRANTOR:** Senco Products, Inc.      **GRANTEE:** Board of Park  
Commissioners, Hamilton  
County Park District

**DATE:** September 11, 2002      **PRICE:** \$581,595.50

**VERIFICATION:** Rick Johnson, Hamilton County Park District

**CONDITION OF SALE:** Arm's Length      **FINANCING:** Cash to Seller

**PRESENT USE:** Unimproved Land      **HIGHEST & BEST USE:** Preservation Lands

**LAND ANALYSIS:**

**Dimensions:** Irregular - 68.473 acres      **Total Area:** 2,980,506± Sq.Ft.

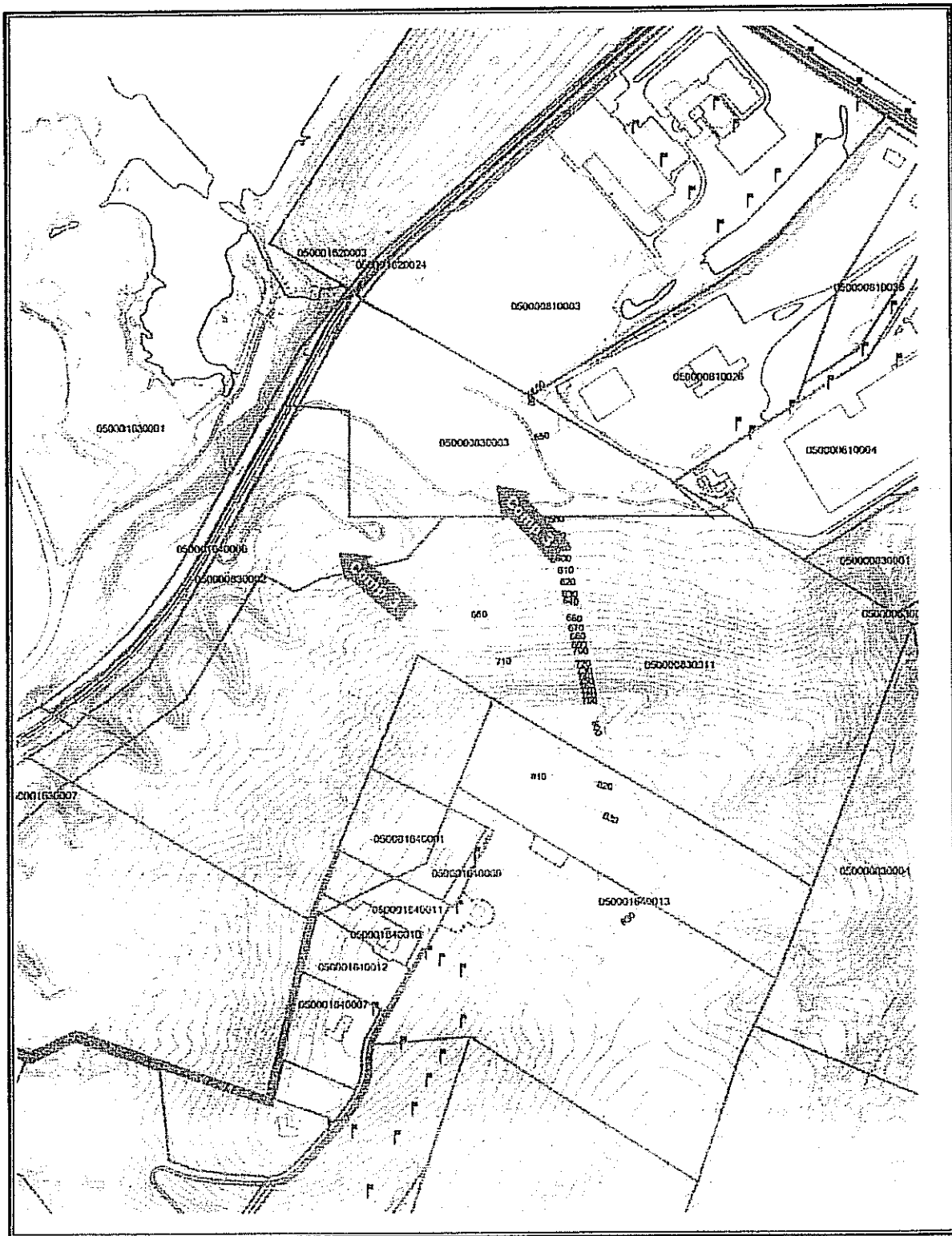
**Zoning:** Manufacturing      **Configuration:** Irregular

**Topography:** Predominantly Hillside Lands      **Utilities:** Water & electric  
(on Broadwell Road)

**APPRAISER'S COMMENTS:**

These lands are considered non-developable. The acreage is accessed from Broadwell Road via an easement. The parcels are predominately wooded.

**Indicated Price:**      **\$8,500.00 per acre**



## **ANALYSIS AND CORRELATION**

### **Discussion**

It has been the experience of this appraiser to find that the sale prices for flood plain lands and non-developable acreage to remain reasonably consistent over the past decade.

With few exceptions, the purchasers of such lands have been governmental agencies and conservation entities.

The primary purpose of such acquisitions was to provide for recreational facilities and land preservation. The values of such land typically remain stable and are minimally affected by economic variations. The appraiser concludes that no adjustment for current market conditions is required when analyzing the comparable sales herein contained.

### **Subject One (1) ± Acre Developable Site**

The appraiser recognizes that this portion of the aggregate acreage is substantially more valuable than the residual 82± acres of flood plain lands.

The appraiser considers the contributory value of this one (1) ± acre parcel when analyzing the comparable sales and applies the resultant to the 83± subject acres.

### **Comparable Undeveloped Land Sale No. 1**

These flood plain acres are located between the Beechmont Levy and the Ohio River. Due to the superior channel characteristics of the Little Miami River, the appraiser concludes that the river recreational opportunities are superior to the subject. The zoning, utility availability and physical aspects are rated very similar to the subject.

It is the opinion of the appraiser that the contributory value of subject one (1) ± acre developable site generally offsets the superior river location of these comparable lands.

Comparable Sale Price Per Acre

\$12,750.00

Overall Rating to the Subject

Generally Comparable

### **Comparable Undeveloped Land Sale No. 2**

This acreage is not within a flood plain, however, the topography and configuration are inferior to the subject as are the recreational opportunities. As this comparable acreage is considered non-developable, the superior zoning has no positive influence on the value.

With consideration to the contributory value of subject one (1) ± acre developable site, the appraiser concludes the following analysis to be appropriate.

Comparable Sale Price Per Acre

\$10,000.00

Overall Rating to the Subject

Inferior

## ANALYSIS AND CORRELATION

### Comparable Undeveloped Land Sale No. 3

This acreage is not in a flood plain, however, the severity of the topography indicates development opportunities to highly doubtful. The more favorable zoning applicable to this comparable provides no contributory influence on the value of same. Access to this acreage is via an easement from Broadwell Road. The recreational opportunities afforded the subject acreage are superior to these comparable lands.

When considering the positive value influence of the subject one (1) ± acre developable site, the appraiser deems the following conclusions to be appropriate.

Comparable Sale Price Per Acre

\$8,000.00

Overall Rating to the Subject

Substantially Inferior

RECAPITULATION OF COMPARABLE SALES ANALYSIS			
COMPARABLE NO.	SALE PRICE	SALE PRICE PER ACRE	OVERALL RATING TO THE SUBJECT
1	\$827,185.58	\$12,750.00	Generally Comparable
2	\$162,660.00	\$10,494.00	Inferior
3	\$547,384.00	\$ 8,000.00	Substantially Inferior

### FINAL SUBJECT VALUE ESTIMATE

83.00± Acres @ \$12,000.00 per acre = \$996,000.00

\$996,000.00

**Consultation with Legislative Authorities**  
**Per PRC 164.23**



HAMILTON COUNTY PARK DISTRICT  
10245 Winton Road, Cincinnati, Ohio 45231

FACSIMILE COVER SHEET  
TEL NO. (513) 728-3551 Ext.217  
FAX NO. (513) 521-2896

DATE:	September 17, 2009	FAX NO.	(513) 946-4330
TO:	Hamilton County Commissioners	PAGES:	
ATTN:	Jeff Aluotto		(including this cover sheet)
FROM:	Sally Bauer, Park Planner	PHONE	

**IF YOU HAVE ANY PROBLEM WITH THE RECEPTION OF THESE PAGES, PLEASE  
CONTACT US AT (513) 728-3551, EXT 264**

As required by the Clean Ohio Conservation Program Grant Application, Ohio Revised Code Sec. 164.23, the Hamilton County Park District is consulting with Miami Township regarding the following project:

- Turpin Farm Acquisition – 125 acres
- Avoca Expansion acquisition – 77 acres
- Woodland Mound Expansion acquisition – 2.7 acres
- Mitchell Memorial Forest Expansion – 47 acres
- Dry Fork Creek Restoration in Miami Whitewater forest – this is not an acquisition project.

(See attached project information describing the above project)  
No Funds from Hamilton County are involved in this project.

**Please respond to this fax indicating you have received this information and  
acknowledge these applications.**

Should you have any questions, please contact Sally Bauer, Park Planner at 728-3551  
extension 264.



HAMILTON COUNTY PARK DISTRICT  
10245 Winton Road, Cincinnati, Ohio 45231

FACSIMILE COVER SHEET  
TEL NO. (513) 728-3551 Ext.217  
FAX NO. (513) 521-2896

DATE:	September 23, 2009	FAX NO.	
TO:	Village of Newtown	PAGES:	
ATTN:	B. Fairley		(including this cover sheet)
FROM:	Sally Bauer, Park Planner		bfairley@villageofnewtown.com

**IF YOU HAVE ANY PROBLEM WITH THE RECEPTION OF THESE PAGES, PLEASE  
CONTACT US AT (513) 728-3551, EXT 264**

As required by the Clean Ohio Conservation Program Grant Application, Ohio Revised Code Sec. 164.23, the Hamilton County Park District is consulting with the Village of Newtown regarding the following project:

- Horizon Church Tract Acquisition – 77 Acres

(See attached project information describing the above project)  
No Funds from the Village of Newtown are involved in this project.

**Please respond to this fax indicating you have received this information and  
acknowledge these applications.**

Should you have any questions, please contact Sally Bauer, Park Planner at 728-3551 extension 264.



HAMILTON COUNTY PARK DISTRICT  
10245 Winton Road, Cincinnati, Ohio 45231

FACSIMILE COVER SHEET  
TEL NO. (513) 728-3551 Ext.217  
FAX NO. (513) 521-2896

DATE:	September 17, 2009	FAX NO.	sclingman@andersontownship.org
TO:	Anderson Township	PAGES:	4
ATTN:	Ms. Clingman		(including this cover sheet)
FROM:	Sally Bauer, Park Planner	PHONE	

**IF YOU HAVE ANY PROBLEM WITH THE RECEPTION OF THESE PAGES, PLEASE  
CONTACT US AT (513) 728-3551, EXT 264**

As required by the Clean Ohio Conservation Program Grant Application, Ohio Revised Code Sec. 164.23, the Hamilton County Park District is consulting with Miami Township regarding the following project:

- Avoca Park Expansion Acquisition site – 77 acres

(See attached project information describing the above project)  
No Funds from Anderson Township are involved in this project.

**Please respond to this fax indicating you have received this information and  
acknowledge these applications.**

Should you have any questions, please contact Sally Bauer, Park Planner at 245-7459.



# Hamilton County

## County Administrator

### BOARD OF COMMISSIONERS

David Pepper  
*President*

Todd Portune  
*Vice President*

Greg Hartmann

County Administration Building  
138 East Court Street  
Cincinnati, Ohio 45202

Phone (513) 946-4400  
Fax (513) 946-4444  
TDD/TTY (513) 946-4719  
[www.hamiltoncountyohio.gov](http://www.hamiltoncountyohio.gov)

ADMINISTRATOR  
Patrick Thompson  
Phone (513) 946-4420

October 12, 2009

Jack Sutton, Park Director  
Hamilton County Park District  
10245 Winton Road  
Cincinnati, OH 45231

Dear Mr. Sutton:

Please accept this correspondence in support of the Park District's Clean Ohio Application focusing on the acquisition of properties for greenspace preservation and streambank stabilization.

The benefits associated with the Park District's application, in terms of streambank stabilization, invasive species removal, and preservation of greenspace fits very well with other strategic environmental initiatives being undertaken by Hamilton County. Specifically, the streambank stabilization projects will assist with the goals of the County's Phase II Stormwater program by helping to reduce sediment loads into local waterways. It is clear that your proposal will greatly assist in improving the environmental quality of our County and thus the quality of life of our residents.

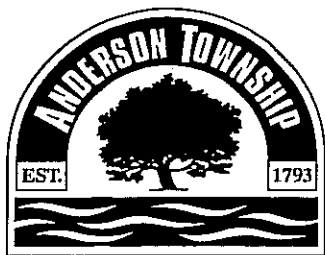
If there is anything additional that I can do to assist with your application, please do not hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Patrick J. Thompson".

Patrick J. Thompson

Cc: David Pepper, County Commissioner  
Todd Portune, County Commissioner  
Greg Hartmann, County Commissioner  
Jeff Aluotto, Assistant County Administrator



# Anderson Township

## Anderson Center

7850 Five Mile Road  
Anderson Township, Ohio 45230-2356

Phone: 513.688.8400

Fax: 513.231.2967

[andersontownship.org](http://andersontownship.org)

[andersoncenterevents.org](http://andersoncenterevents.org)

### Township Trustees

Russell L. Jackson, Jr.

Albert F. Peter

Peggy D. Reis

### Fiscal Officer

Kenneth G. Dietz

Fax: 513.231.4835

### Township Administrator

Vicky L. Earhart

### Assistant Administrator for Operations/Development Services Director

Steve E. Sievers, AICP

### Assistant Administrator for Human Resources

Suzanne M. Parker

### Fire Chief

Mark J. Ober

Emergency: 911

### Public Works Director

Richard A. Shelley

### Sheriff's District 5

Lt. Mike L. Hartzler

District Commander

Emergency: 911

Phone: 513.474.5770

Fax: 513.474.9126

### Law Director

Margaret W. Comey

Phone: 513.361.1208

Fax: 513.361.1201

September 30, 2009

Mr. Ross Hamre, Planning Director  
Hamilton County Park District  
10245 Winton Road  
Cincinnati, Ohio 45231

### RE: HORIZON CHURCH PROPERTY ON LITTLE MIAMI RIVER (AVOCA PARK EXPANSION)

Dear Ross:

It is with great pleasure to write and express Anderson Township's support of the Hamilton County Park District's (HCPD) efforts to acquire a portion of the Horizon Church property on the south shore of the Little Miami River, in the northern part of Anderson Township. This property is uniquely positioned between three publicly owned parks along this State and National Scenic River, and the HCPD's acquisition would help to maintain the wonderful natural characteristics in this area, while also expanding Avoca Park into Anderson Township.

The Hamilton County Park District's proposed acquisition through the Clean Ohio Conservation Program is an ideal use of funds to help preserve a riparian corridor along the Little Miami River. We have greatly appreciated the partnership between the HCPD and Anderson Township to preserve open space in our community, and are excited about your desire to protect this important floodplain area and key bend in the River.

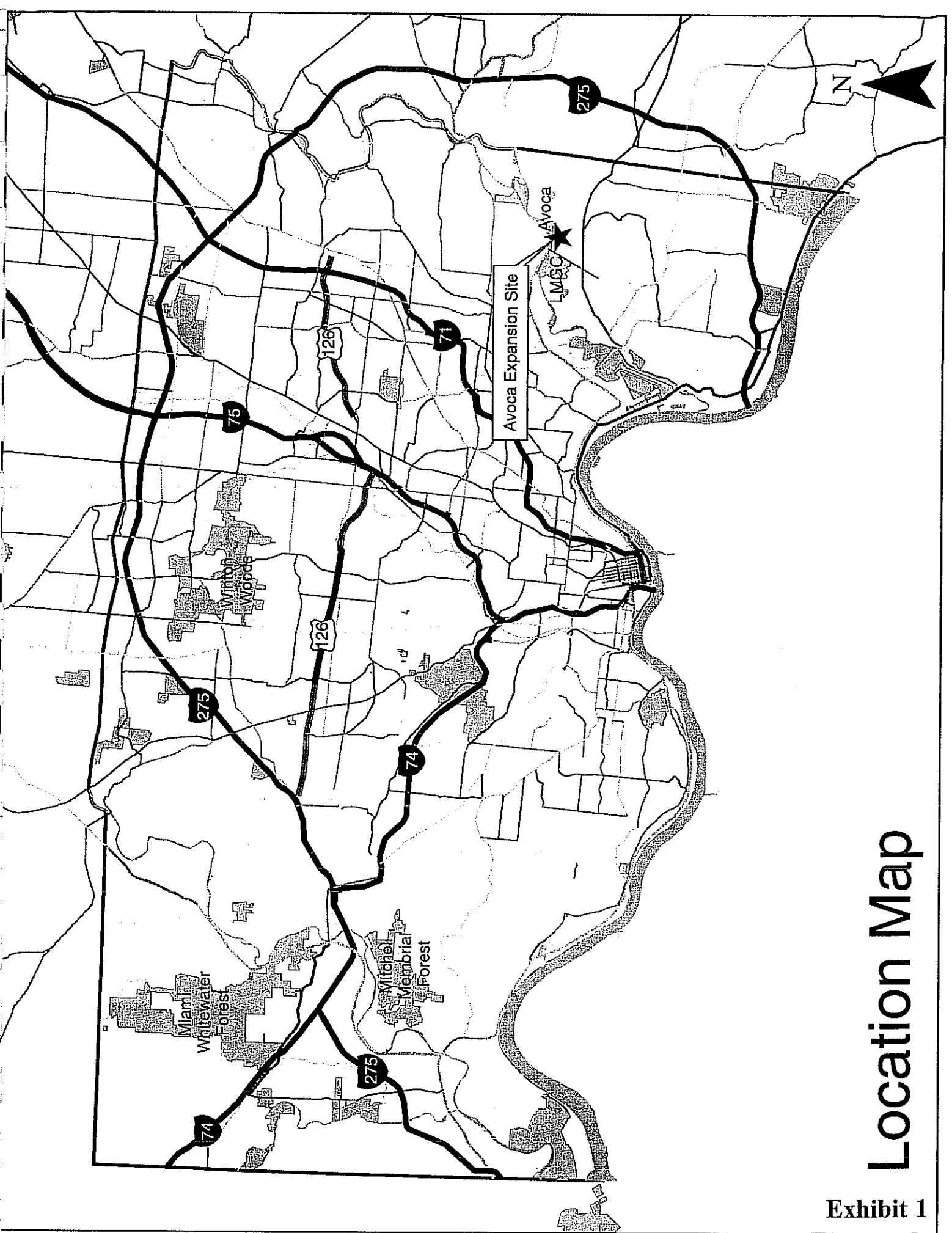
Sincerely,

Steve E. Sievers, AICP

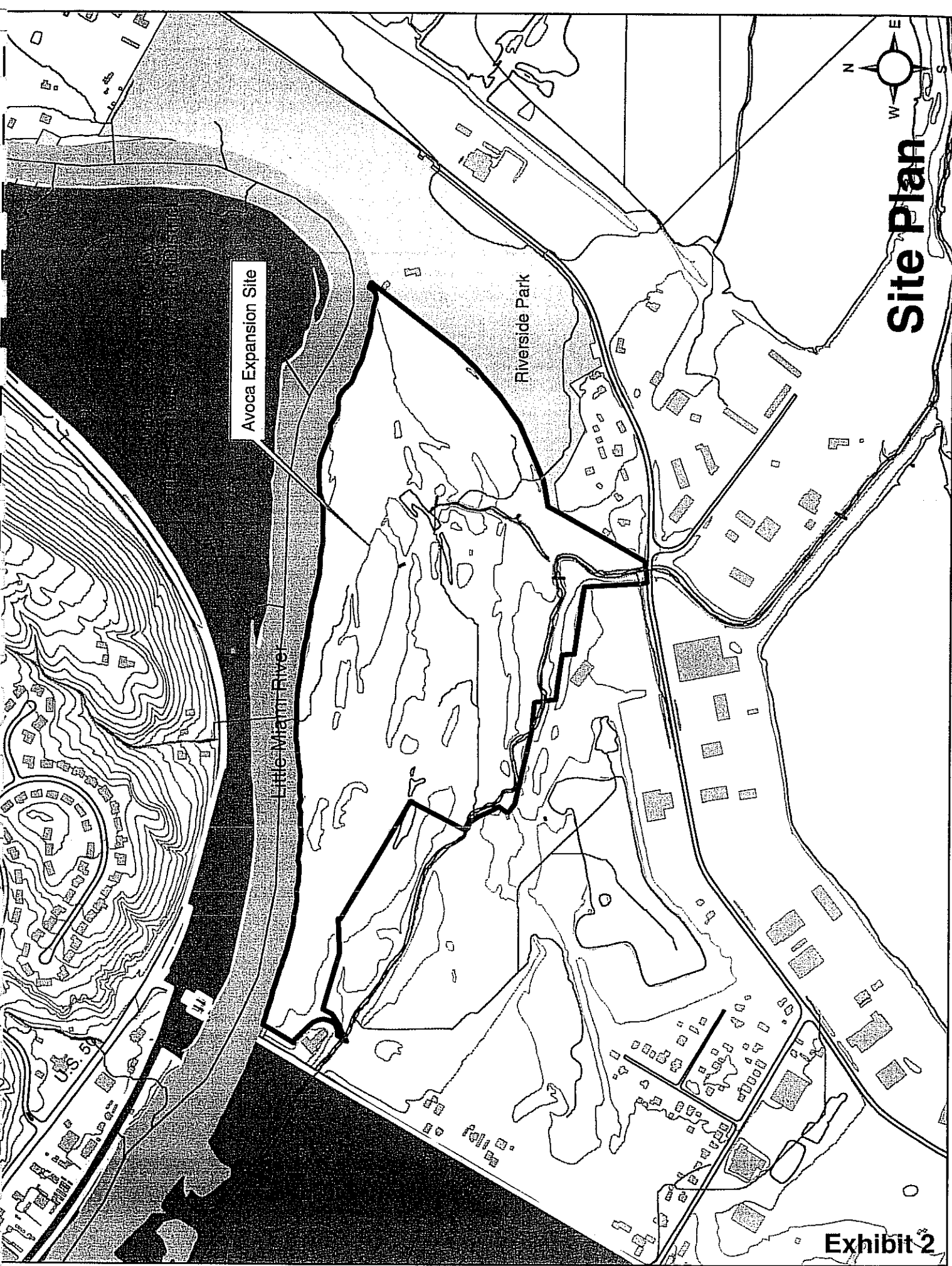
Assistant Administrator for Operations/Development Services Director

cc: Board of Township Trustees: Peggy Reis, Russ Jackson, Al Peter  
Township Fiscal Officer: Ken Dietz  
Township Administrator: Vicky Earhart

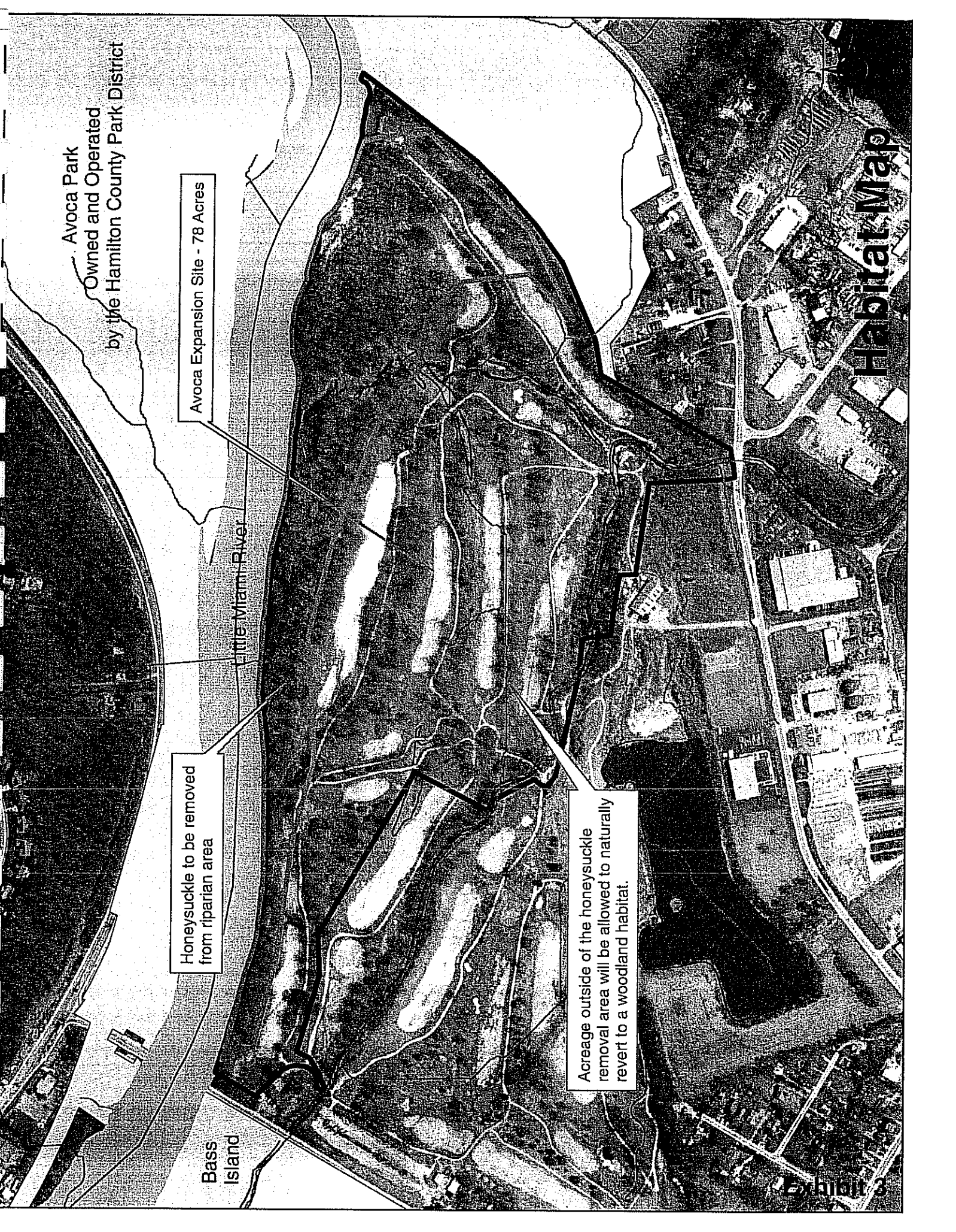
# Exhibits



# Location Map



# Site Plan



Avoca Park  
Owned and Operated  
by the Hamilton County Park District

Avoca Expansion Site - 78 Acres

Little Miami River

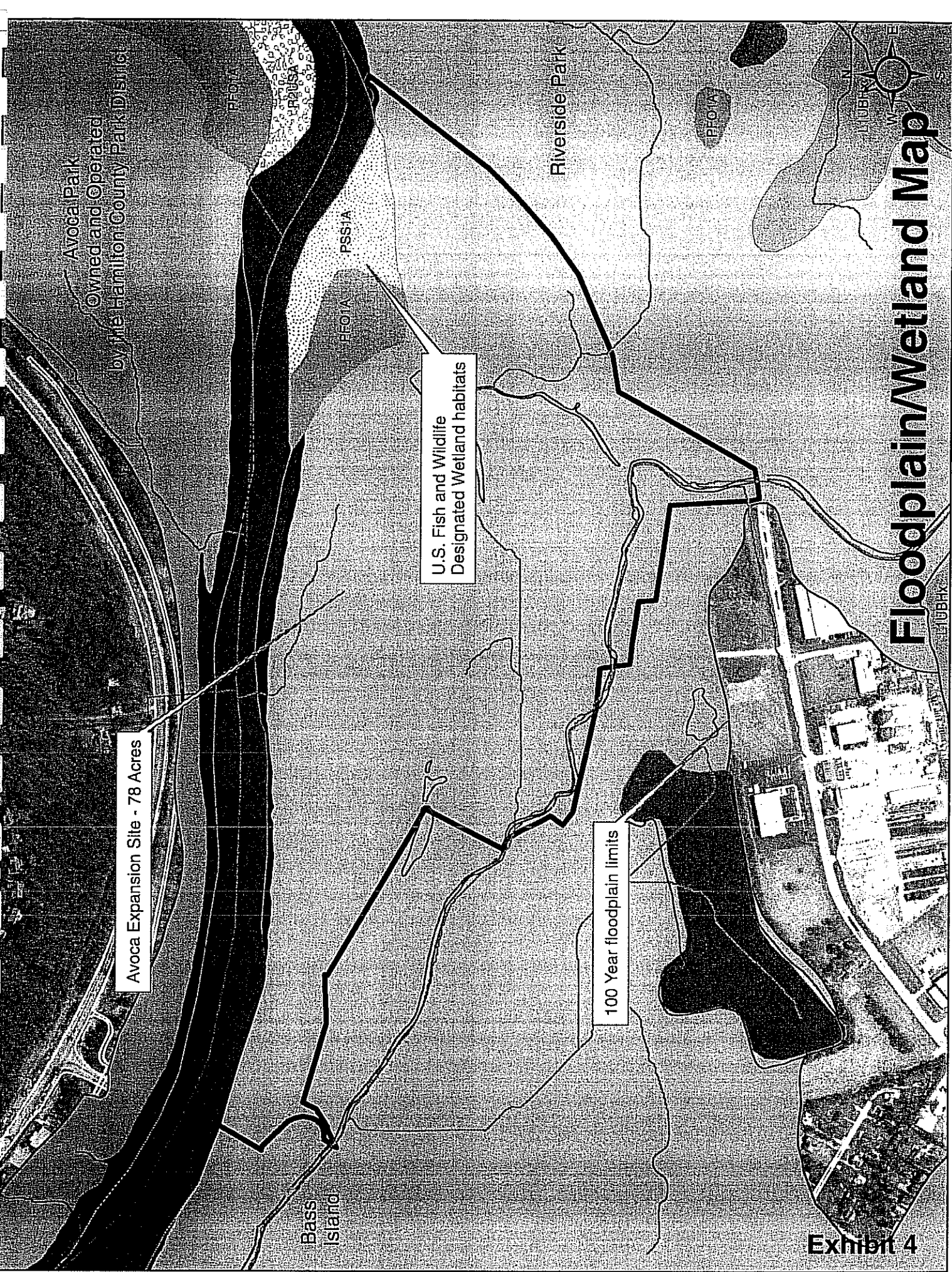
Honeysuckle to be removed  
from riparian area

Bass  
Island

Acreage outside of the honeysuckle  
removal area will be allowed to naturally  
revert to a woodland habitat.

Habitat Map

Exhibit 3



# Floodplain/Wetland Map



Exhibit 5

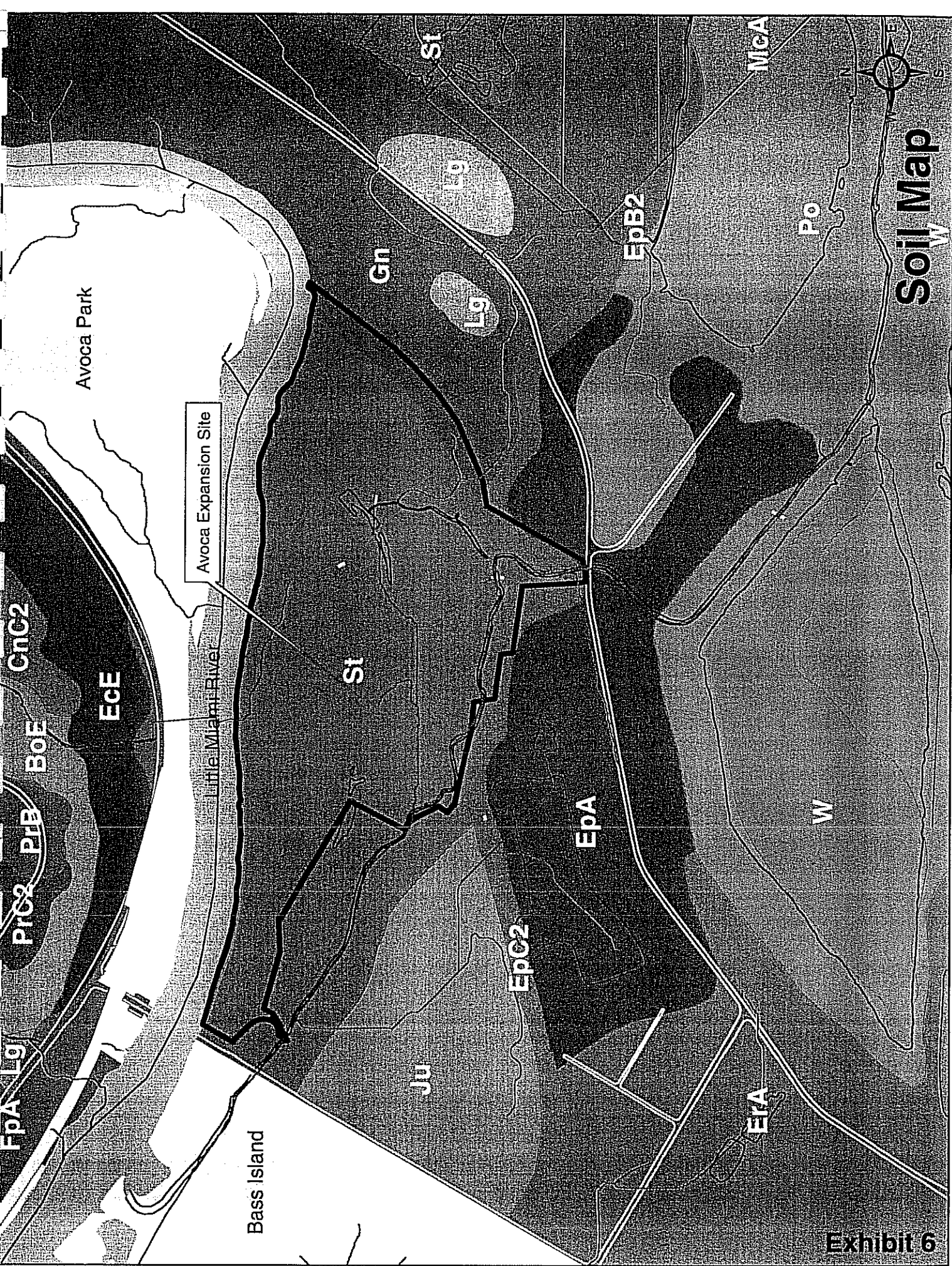
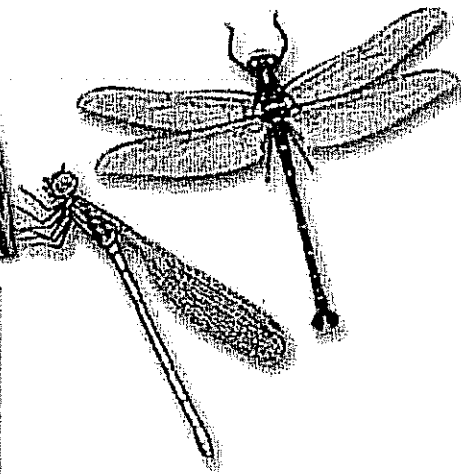


Exhibit 6

# Appendix



# Little Miami State and National Scenic River



Ohio  
Stream Quality Monitoring  
2008 Annual Report



# **Little Miami River State and National Scenic River 2008 Stream Quality Monitoring Annual Report**

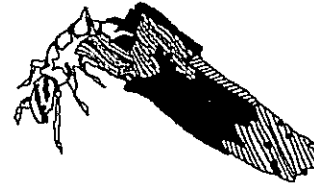
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Monitoring Station Descriptions .....	7-8
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# Introduction

## Ohio Scenic Rivers Program

With more than 60,000 miles of streams, Ohio is a water-rich state. Many of Ohio's streams support thriving plant and animal communities, including Ohio's state designated scenic rivers. Administered by the Ohio Division of Natural Areas and Preserves, the Ohio Scenic Rivers Program oversees 13 state designated scenic river systems, comprising 754 river miles along 23 stream segments. These streams represent some of the best of Ohio's waterways.



## Stream Quality Monitoring Project

Developed in 1983, the Stream Quality Monitoring (SQM) Project uses volunteers in aquatic macroinvertebrate monitoring to compile biological and water quality data on the state's scenic rivers. The SQM project is an excellent, simple and cost-effective method of assessing a stream's health.

Aquatic macroinvertebrates organisms lack a backbone (invertebrate), are large enough to view with the naked eye (macro), and spend at least a portion of their lives in the water (aquatic). Macroinvertebrates, such as various aquatic insects (e.g. mayfly, stonefly), are good indicators of stream health. When negative impacts to a stream occur, the result may show a decline or absence of certain macroinvertebrate species. Through consistent monitoring in the SQM Project, changes observed in the macroinvertebrate community help the Ohio Scenic Rivers Program detect and address potential impacts to a stream.

The Ohio Scenic Rivers Program compiles volunteer field assessment information into a statewide database. The database serves as a tool to track short- and long-term changes and trends over time.

## SQM Project Relies on Volunteers

Coordinated by the Division of Natural Areas and Preserves, the SQM Project provides opportunities for public participation in scenic river protection efforts. Many local, youth and conservation organizations, individuals and families are committed to monitoring more than 150 stations along Ohio's scenic rivers.

SQM volunteers collect macroinvertebrate data from selected monitoring stations, also referred to as monitoring sites or reference stations, three times during the monitoring season. Volunteers complete field assessment forms which document taxonomy, tolerance and abundance of collected organisms.

## SQM Annual Report

The information collected by volunteers has become a critical tool for the documenting of the health of Ohio's state scenic, wild and recreational rivers. This report is a compilation of field data collected during 2008 by volunteers and staff. It also represents a year of dedication and commitment shown to Ohio's special waterways by thousands of SQM volunteers.

# Little Miami State Scenic River

## Overview

On April 23, 1969, the Little Miami River earned the distinction of becoming Ohio's first designated State Scenic River. From its headwaters in Clark County, the Little Miami flows southwesterly for more than 100 miles, traversing five counties before arriving at its confluence with the Ohio River. The Little Miami River was also the first Ohio stream to be designated as a National Scenic River.

Noted for breathtaking vistas and scenery, the Little Miami River supports rich and abundant aquatic life. More than 87 species of fish, 36 species of mussels (including five state endangered species) and untold species of breeding birds reside within the river valley. Exceptional water quality in the Little Miami also supports diverse populations of pollution-intolerant macroinvertebrates, such as dobsonfly larvae, water penny beetles and many others.

Public access to the Little Miami Scenic River is readily available through a variety of facilities including Clifton Gorge State Nature Preserve, John Bryan State Park, several Greene County parks, the Little Miami State Park and several scenic river access sites. Additionally, numerous private campgrounds and canoe liveries offer a variety of activities for enjoying the river. Due to its unique combination of spectacular beauty and easy access, the Little Miami Scenic River is a popular venue for hikers, canoeists, fishermen and bicyclists.

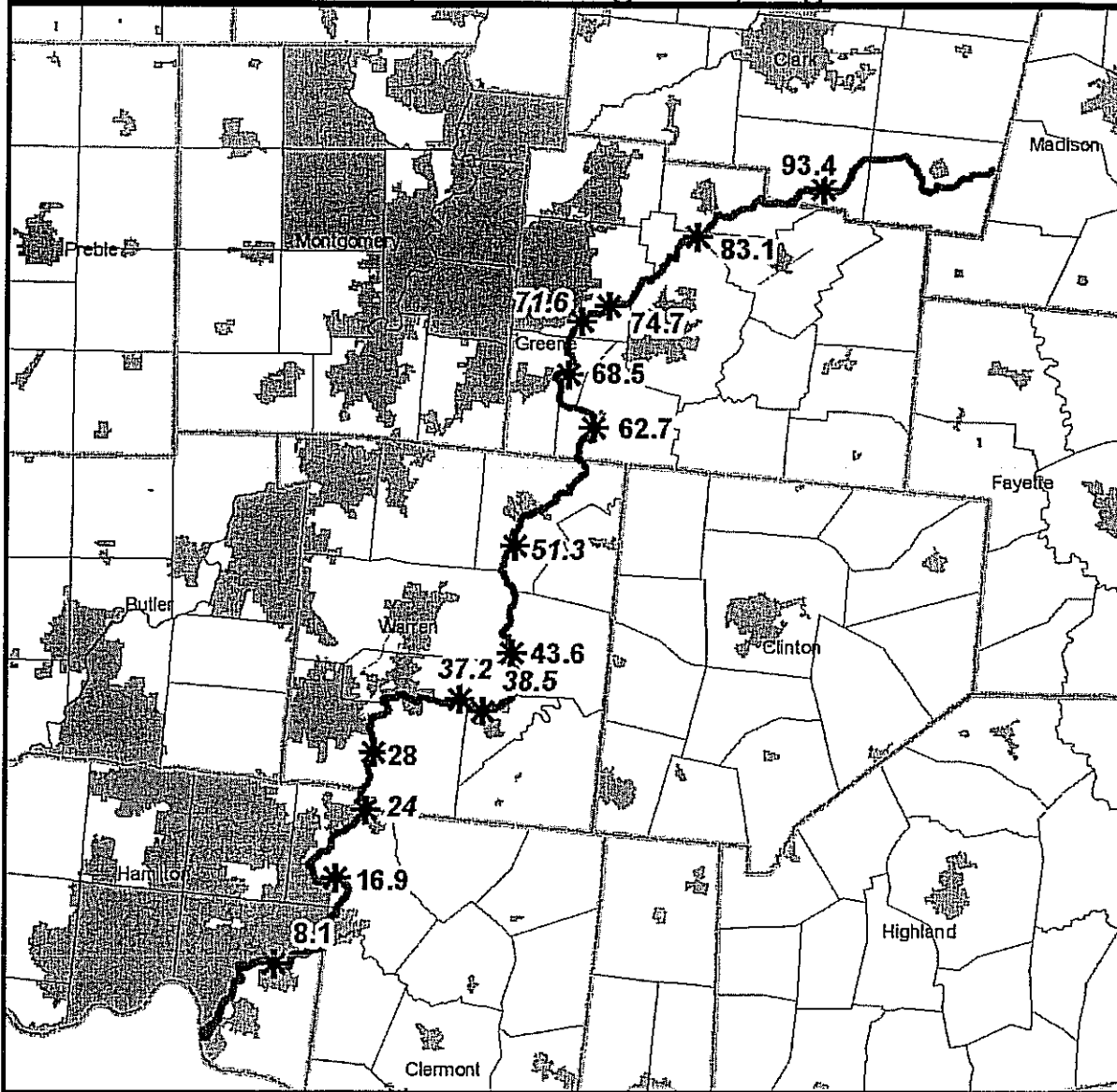
The Little Miami River valley is also home to many of Ohio's significant historical and archaeological sites. Fort Ancient, located in Warren County and managed by the Ohio Historical Society, was home to at least two of Ohio's prehistoric mound-building tribes. The Little Miami valley was also home to the Shawnee Indians and the influential chief, Tecumseh. Arrowheads, pottery shards and many other Indian artifacts are commonly found along the river.

The Little Miami flows through several natural areas which highlight the wide diversity of Ohio's ecology. For instance at Clifton Gorge State Nature Preserve, the high dolomite cliffs of the narrow gorge provide an exceptional display of plants commonly seen in climates much farther north. Boreal relicts, such as hemlocks and white cedars, provide an interesting view into Ohio's glacial past. Additionally, more than 340 species of wildflowers are found in the preserve during the spring and summer months.

The Little Miami Scenic River is one of Ohio's exceptional waterways and an ideal place to spend a weekend exploring the natural heritage of our state. For more information about public access and facilities along the river, contact John Wolary, Southwest Ohio Assistant Regional Scenic River Manager at 513-934-0751 or at [john.wolary@dnr.state.oh.us](mailto:john.wolary@dnr.state.oh.us), or the Division of Natural Areas and Preserves at 614-265-6453.

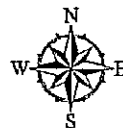


# Little Miami River Stream Quality Monitoring Sampling Stations



## Legend

- \*** SQM Station
- Bold**= Reference Station
- Italic*= Non-reference Station
- Scenic River Designation
- County Boundary
- Township Boundary
- City Boundary



0.5 2 3 4  
Miles



## 2008 Stream Quality Monitoring Participants

Whether their contribution was a one-time event or a recurring adventure in stream exploration, the individuals and organizations listed below played a significant role in protecting the Upper Cuyahoga River. Their time and dedication to this river and the Ohio SQM Project is greatly appreciated. Special thanks are extended to the Little Miami Scenic River Advisory Council for their continued support and assistance. The non-reference sites are sites that are primarily used by schools for educational purposes. If the sampling meets Scenic River SQM criteria the information is collected and reported accordingly

### Little Miami River

**River Mile 8.1 - Bass Island Park Access**  
Steve and Gerri Lilly

**River Mile 16.9 - Rock Pit Access**  
Steve and Gerri Lilly

**River Mile 24 – Nesbit Park Access (*non – reference site*)**

**River Mile 28.0 - Carl Rahe Memorial Access**  
Friends of Simpson Creek  
Marcia Sullivan, Mary Hoot, Diana Halligan

**River Mile 37.2 - Hall's Creek Access (*non-reference site*)**  
Little Miami High School, Honors Biology - Deb Haisley

**River Mile 38.5 – Confluence of Todd's Fork (*non-reference site*)**

**River Mile 43.6 - Fort Ancient Access**  
Marsha Rolph - DNAP

**River Mile 51.3 - Caesar Creek Access**  
Clinton Streamkeepers  
Jim O'Boyle, Ashley Kuflewski

**River Mile 62.7 – Constitution Park (*new reference site*)**  
DNAP-Judie Welch

**River Mile 68.5 - Washington Mills Access**  
Bishop Liebold -Roseanne Place– Margret Hensel, Judie Welch  
DNAP

**River Mile 71.6 - The Narrows Reserve (*non-reference site*)**  
Bishop Liebold – Roseanne place

**River Mile 74.7 - Glen Thompson Reserve**  
Bishop Liebold – Roseanne Place, Judie Welch  
2008 Stream Quality Monitoring Annual Report  
Little Miami State and National Scenic River

DNAP

**River Mile 83.1 - Jacoby Road Access**  
DNAP-Judie Welch

**River Mile 93.4 - Garlough Road Access**  
Karin Rotroff - DNAP

The continued success of the Stream Quality Monitoring Project is dependent upon the commitment and dedication of these (and other) volunteers and participants. If you would like to participate in Ohio's volunteer Stream Quality Monitoring Project, please contact Bob Welch, Southwest Ohio Stream Quality Monitoring Coordinator at 937-548-1596 or John Wolary, the Southwest Ohio Assistant Regional Scenic Rivers Manager at 513-934-0751 or the Division of Natural Areas and Preserves at 614-265-6453.

## Station Descriptions

Public access to the Little Miami River is widely available. As a result, many stream quality monitoring stations are located on public property and present little difficulty for volunteers to access and regularly monitor. The following are brief summaries of selected stream quality monitoring sites along the Little Miami River.

### **River Mile 8.1 - Bass Island Park Access**

Bass Island is managed and maintained by the Hamilton County Park District. The area is heavily used and easily accessed by fishermen, hikers and canoeists. It is an excellent site to access the lower stretch of the Little Miami. The riffle is very deep at this station and is comprised of mostly cobbles and gravel, providing excellent habitat for dobsonfly larvae and stonefly nymphs. Cumulative Index Values (CIVs) for this station are good to excellent. This is an improvement from last year's moderate values. The sampling site is located directly downstream from the city of Milford and may contribute to the lower values recorded.

### **River Mile 16.9 - Rock Pit Access**

An excellent sampling station on the Little Miami, the riffle area here is approximately 100 feet wide. A wide variety of macroinvertebrates inhabit this site with damselfly nymphs being quite common. CIVs for this area are generally quite high.

### **River Mile 28.0 - Carl Rahe Memorial Access**

This monitoring station is easily accessible with ample parking available. Carl Rahe Memorial Access, once called Glen Island, is one of the more popular fishing sites along the Little Miami in Warren County. Large cobbles, gravel and boulders make up the river bottom with a wide variety of macroinvertebrates inhabiting this riffle. Many pollution-intolerant species are found here, including a large number of caddis fly larvae. Cumulative Index Values for this station are consistently in the mid-20s.

### **River Mile 43.6 - Fort Ancient Access**

Famous for the nearby Indian burial mound site administered by the Ohio Historical Society, the Fort Ancient station provides access to a variety of activities along the Little Miami River. Used heavily by fishermen and canoeists, this access provides plenty of parking and well-established trails to the sampling area. The riffle area is composed mainly of gravel and cobbles, which provides excellent habitat for a wide variety of macroinvertebrates. CIVs for this site are usually in the excellent range with numerous organisms, such as crayfish and pollution-intolerant caddis fly larvae, being collected.

### **River Mile 51.3 - Caesar Creek Access**

Due in part to the shallowness of this riffle area, numerous water penny beetle larvae are found at this site. In addition, the large variety of pollution-intolerant species found at this site consistently contributes to high CIVs. The covered bridge at the site has recently been renovated.

### **River Mile 62.7 - Constitution Park**

This monitoring site was added in 2000. This riffle is shallow and mostly sand, gravel and some cobblestones. Numerous water penny larvae found at this site along with a large variety of other pollution – intolerant species contributes to high CIV counts.

**River Mile 68.5 - Washington Mills Access**

This sampling station is located adjacent to Stewart Road in the small town of Bellbrook. The riffle area is located under and immediately downstream from the bridge. Large gravel and cobbles comprise the majority of the river bottom and macroinvertebrate habitat at this site is generally good. CIVs consistently range in the good to excellent categories with a wide variety of species represented in samples.

**River Mile 74.7 - Glen Thompson Reserve**

Glen Thompson Reserve is a small park area owned by the Division of Natural Areas and Preserves, is located immediately adjacent to SR 35 and managed by the Greene County Park District. The riffle area, located about 200 yards upstream from the SR 35 bridge crossing is composed primarily of gravel and cobbles and is considerably deep. This composition results in excellent habitat for dobsonfly larvae (hellgrammites) known to prefer deep, swift-moving riffles. Presently the CIVs remain consistently high at this location showing no influence from the erosion of the upstream bank.

**River Mile 83.1 - Jacoby Road Access**

Located northwest of the city of Xenia, the Jacoby Road Access area is both easily accessible and an excellent site to sample. It is also a popular canoe access. Adequate parking is available for school groups wishing to utilize the river for the study of the macroinvertebrates and water quality relationship. The heavily forested river corridor in this area, when combined with a riverbed comprised of sand, gravel, cobble and boulders results in exceptional aquatic habitat. Within the 40-foot-wide riffle area, nearly all pollution-intolerant organisms may be collected at this sampling station. CIVs are consistently high at this riffle.

**River Mile 93.4 - Garlough Road Access**

The northern most sampling station on the Little Miami, this area is located on Garlough Road in southern Clark County. Access is difficult due to thick brush and undergrowth and parking is restricted to the bridge area. Caution must be exercised when sampling this station. The riffle area is quite narrow and the riverbed is comprised mostly of sand and gravel. As a result, habitat is limited and CIVs recently are in the low excellent to high excellent range. At times in the late summer and fall, the water is so clear that it is difficult to determine the depth of the water.

## Sampling Results and General Trends

According to the National Oceanic and Atmospheric Administration (NOAA), in 2008, Southwest Ohio experienced above average rainfall during June and early July. This above average rainfall led to an above normal flow during the spring and early summer on the Little Miami River. From late July through September, the Little Miami River corridor experienced little or no rainfall, with that trend continuing for the remainder of the 2008 monitoring season. These differing trends of above and below normal flows during the monitoring season led to counts below the normal average for some of the Cumulative Index Values (CIV) while some counts remained excellent.

With the continuing development along the Little Miami River come adverse environmental impacts to water quality, habitat and the river's overall ecosystem. Denuding of stream banks, sedimentation, changes in riverbed structure, changes in riffle structure, and the increase of impermeable surfaces are all examples of habitat degradation that are occurring as a result of the continued growth within the river corridor.

Of eleven sites on the Little Miami River only two showed an increase in the CIVs, eight sites showed a decrease in the CIVs, while one site's CIV remained the same. The CIV for the Little Miami River is down slightly from the 2007 average of 24.2, this year's average CIV is 22.5.

The Little Miami River average taxonomic diversity per assessment was 9 macroinvertebrate orders (e.g. stonefly, damselfly, mayfly, etc.).

Attention should be paid to the increasing percentage of impermeable surfaces within this watershed. Impermeable surfaces create an increase of non-point source pollution. This can also affect soil and tree root systems that would normally absorb and filter water, forcing the unfiltered water and sediments to enter directly into the river system. Furthermore, new developments have minimized the existing forest corridor along the river. The forest corridor plays many important roles in the watershed community. It acts as a large buffer system that filters incoming non-point source pollution. The root system of the trees prevents erosion by holding the soil in place. The shade cast by the forest canopy sustains a generally constant water temperature. Also the forest corridor provides organic matter as a food source for many organisms in the river system.

*Volunteer and staff data are used for the Ohio Stream Quality Monitoring Project as a water quality-screening method. The data helps in detecting significant changes in stream quality based on CIV data from sites that have been monitored for many years over time by staff and trained volunteers. In the event that significant CIV declines are noticed for a particular site, potential problems that may be causing stream degradation can be further investigated and addressed.*

The Southwest Ohio Scenic Rivers Staff would like to thank our dedicated volunteer monitors. It is only through their efforts that it was possible to complete the SQM samples on the Little Miami River. Additional volunteers are needed to assist in monitoring reference stations on the Little Miami River in the upcoming year. Interested persons should contact Bob Welch, Southwest Ohio SQM Coordinator at 937-548-1596 to request the necessary training and monitoring equipment.

## Total Suspended Solids (TSS)

In 1999, the Scenic River Program added Total Suspended Solids (TSS) monitoring to the Stream Quality Monitoring (SQM) Project. The purpose of this addition is to estimate the amount of soil sediments impacting a stream by estimating the turbidity of the water. These sediments are attributed to problems originating upstream of the sampling site. The equipment is calibrated to predict Total Suspended Solids (TSS) at 90% accuracy. The measurements are accurate enough to determine the changes in sediment rates in a stream at a given location and time.

Variables such as amount of precipitation, slope and gradient of the river system, soil type, time of year data is collected, amount of development, amount of riparian corridor, velocity of the river flow, and the amount of waste water effluent have an effect on the TSS value. Precipitation amount is important because of the increased potential for sediments to be carried into the river during a rain event.

The TSS value may appear higher than normal if precipitation amounts are not taken into account. Since large rain events usually happen in the spring and early summer, the time of year the samples are taken could affect the TSS score. The gradient (or slope) of the stream is important as well. Sediments do not settle out as easily in high gradient streams because the velocity of the water washes it downstream. In low gradient streams, sediment has a chance to settle out, resulting in a lower TSS value. Soil types impact TSS values because some soil types erode faster than others. A better understanding of the types of soils within the watershed may give way to a better understanding of the baseline TSS values for a stream. Development in an area can cause changes in the TSS score. Areas cleared for new buildings are often not covered, causing an acute rise in the amount of suspended solids in nearby streams. Impermeable surfaces can also cause chronic elevation of TSS values because there is no buffer to absorb or trap runoff. Wastewater treatment plant effluent would only affect TSS scores in low flow situations, and only if the plant employs only primary or secondary treatment.

The actual process of taking a sample is simple. Using a clear Lucite sediment stick developed by the Lake Soil and Water Conservation District, a water sample is collected from the stream. Keeping the sample materials suspended, water is then poured out of the tube until the 0.4-inch target dot is visible on the tube bottom. A reading of the water column height is taken from the markings on the stick to the nearest ¼ inch. A conversion table is then used to convert the sediment stick reading to total suspended solid measurement in the form of an estimate of the weight of solids suspended in the water column (mg/l).

The TSS measurement can further be used to estimate water quality through the use of the following scale:

- TSS <10 mg/l = excellent water quality
- TSS 10-28 mg/l = normal water quality
- TSS 29-133 mg/l = impaired stream
- TSS >133 mg/l = severely impacted stream

**2008 TSS Results:** Sediment stick samples for monitoring of Total Suspended Solids (TSS) in the Little Miami River reflected excellent to normal water quality at nine reference stations. Two stations on the lower Little Miami River are showed to be impaired. All reference stations were tested at least one time during the testing season. Three non reference stations were not tested.

## Comparisons of Collected Stream Quality Monitoring Data

Frequent monitoring of the same reference station is performed a minimum of three times per year consistently year after year. An assessment of the diversity and tolerance levels of taxonomy collected generates the Cumulative Index Value (CIV) for the site on a given date. Field assessment results are used as basic indicators of long-term changes in a stream's macroinvertebrate community and help Scenic Rivers staff identify pronounced stream quality problems.

Table 1 identifies the 20 macroinvertebrates assessed and their general tolerance to pollutants. Pollution-intolerant organisms, such as those listed in Group I, require unpolluted, high quality water in order to survive. Pollution-tolerant organisms, such as those listed in Group III, are extremely tolerant of deteriorated water conditions.

**Table 1. Macroinvertebrate Pollution Tolerance**

<b>Group I Taxa Pollution Intolerant</b>	<b>Group II Taxa Moderately Tolerant</b>	<b>Group III Taxa Pollution Tolerant</b>
Water Penny Beetle Larvae (WP) Mayfly Nymphs (MF) Stonefly Nymphs (ST) Dobsonfly Larvae (DO) Caddis fly Larvae (CD) Riffle Beetle Adult (RI) Other Snails (OS)	Damselfly Nymphs (DA) Dragonfly Nymphs (DR) Crane Fly Larvae (CR) Beetle Larvae (BL) Crayfish (CF) Scuds (SC) Clams (CL) Aquatic Sowbugs (SW)	Black Fly Larvae (BF) Aquatic Worms (AW) Midge Larvae (MI) Pouch Snails (PS) Leeches (LE)

Table 2 represents the mean Cumulative Index Values (CIV) for each Stream Quality Monitoring reference station sampled on the river during 2008. In addition, the table uses symbols (♦) to indicate those macroinvertebrates found to be present at least once during the year at the respective reference station. Each macroinvertebrate is identified by a 2-letter code given in Table 1. CIV values of 23 or greater indicate *Excellent* stream quality; CIV values of 17-22 indicate *Good* stream quality; CIV values ranging from 11-16 suggest *Fair* stream quality; and CIV of 10 or less reflect *Poor* stream quality. Situated beside the CIV are the symbols + (improved), = (equal), or – (lower) indicating the relationship to the previous years CIV.

For the full range of CIV attained at all sites monitored during the year including non-reference stations, please see the *Appendix*.

**Table 2. Little Miami River 2008 Mean CIV by Reference Station**

STATION	W P	M F	S T	D O	C D	R I	O S	D A	D R	C R	B L	C F	S C	C L	S W	B F	A W	M I	P S	L E	CIV
8.1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆	◆		25+
16.9	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆			◆		◆	◆	◆	◆	◆	23-
28	◆	◆	◆		◆	◆	◆	◆	◆	◆				◆			◆		◆		22-
37.4	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆	◆					◆	◆	◆	◆	29=
43.6	◆	◆			◆	◆	◆	◆	◆		◆	◆	◆	◆	◆		◆	◆		◆	23+
51.3	◆	◆			◆	◆	◆	◆	◆	◆		◆	◆	◆	◆		◆			◆	24-
62.7		◆			◆	◆	◆	◆	◆	◆	◆			◆				◆		◆	17-
68.5	◆	◆	◆		◆	◆	◆	◆	◆		◆	◆		◆	◆	◆	◆	◆			19-
74.7	◆	◆	◆		◆	◆	◆	◆	◆	◆	◆			◆	◆		◆	◆			19-
83.1	◆	◆	◆		◆	◆	◆	◆	◆		◆	◆				◆		◆			20-
93.4	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		◆	◆	◆	◆	◆	27-

Figure 1.1 represents the maximum and minimum CIV range recorded during the year for each reference station. Figure 1.2 represents mean CIV at each reference station over many years. For the full range of CIV attained at all sites monitored during the year including non-reference stations, please see the *Appendix*.

**Figure 1.1 Little Miami River CIV Max & Min Ranges 2008**

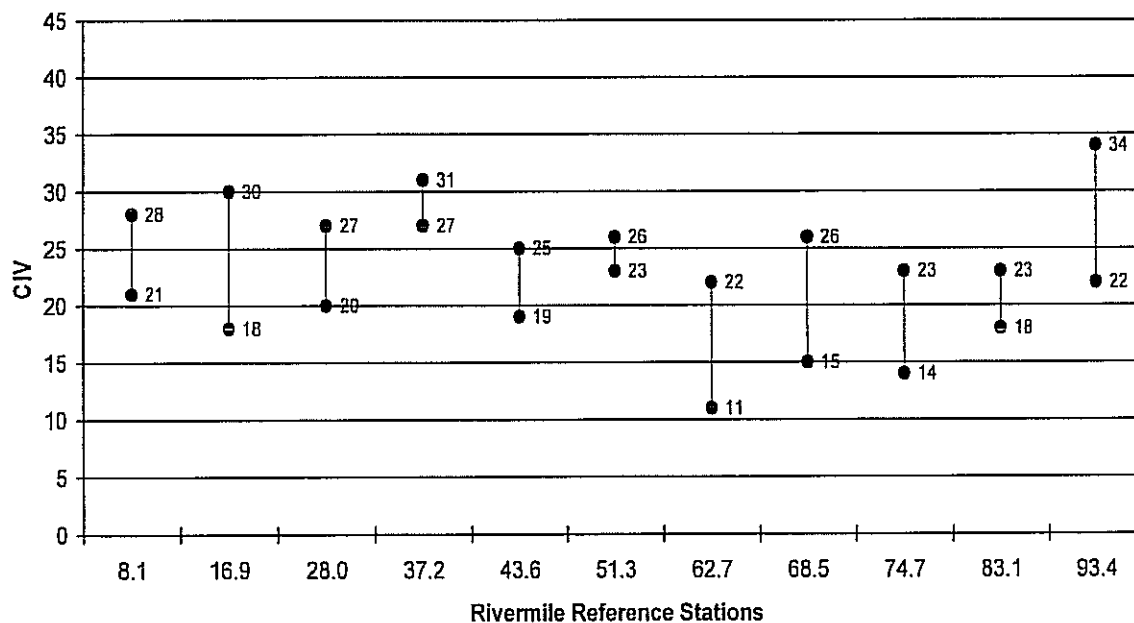
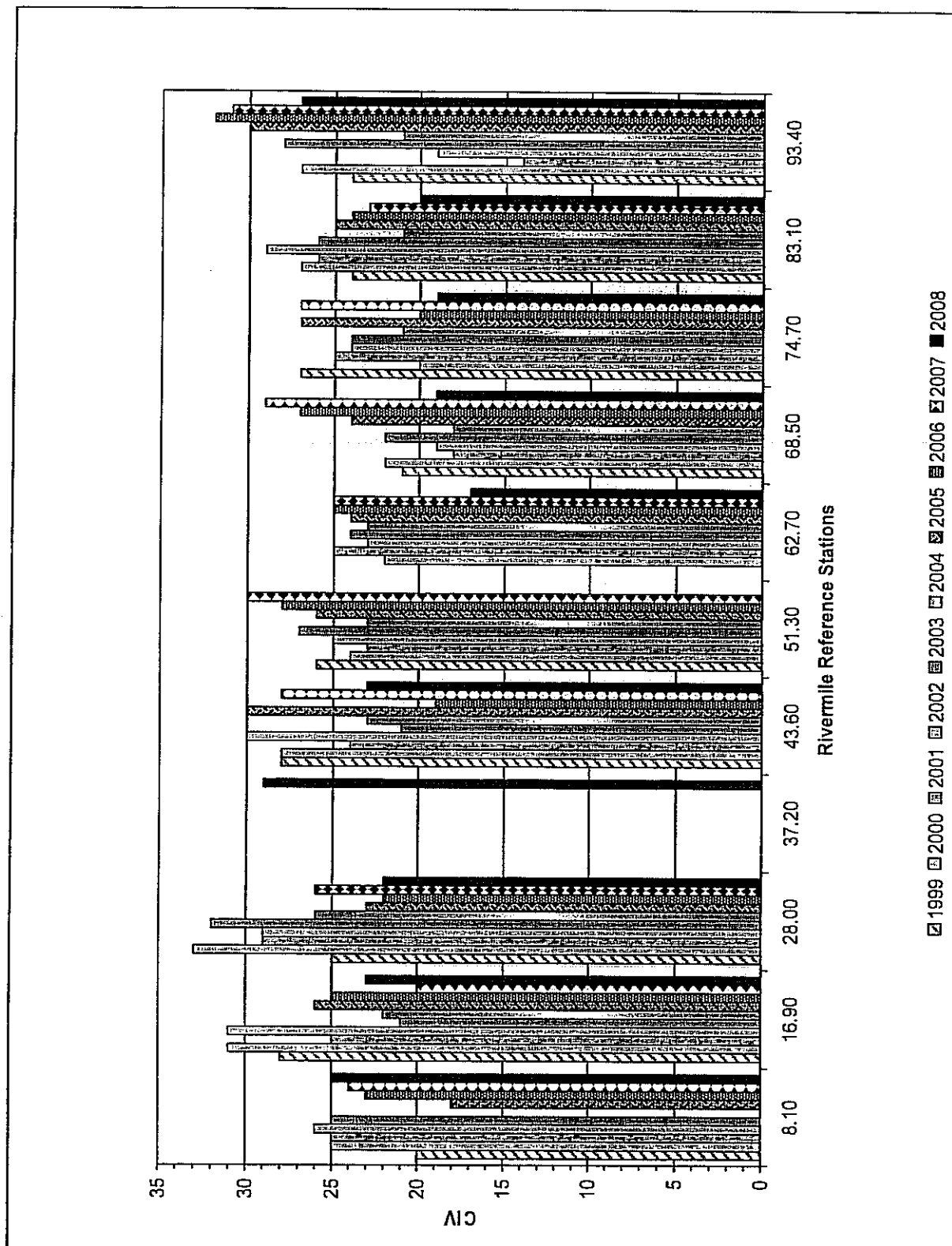


Figure 1.2 Little Miami River Mean CIV 1999 – 2008



## Qualitative Habitat Evaluation Index (QHEI)

The Qualitative Habitat Evaluation Index (QHEI) is a system developed and employed by the Ohio Environmental Protection Agency to measure physical habitat conditions in and around rivers and streams in Ohio. During 1998, the SQM Project staff tested a modified version of the QHEI, referred to as *Citizen's QHEI*, to gather baseline measurements at reference stations on several of Ohio's scenic rivers. It is anticipated that such measurements will become yet another annual tool that will be used to monitor habitat and water quality conditions on all Ohio scenic rivers.

The SW Ohio Scenic Rivers staff performed QHEI evaluations at reference stations on the lower half of the Little Miami River in 2000. Evaluations on the remaining portion will occur as new staff become trained (\*). These habitat conditions are re-evaluated every five years. In addition, volunteer monitors are also encouraged to receive training and perform Citizen's QHEI on Southwest Ohio Scenic Rivers.

Results from 2000 QHEI are included below. When attempting to interpret this data, it is important to recognize that OEPA generally concludes that any site receiving a QHEI value greater than 60 meets current warmwater habitat (WWH) standards. Meeting WWH standards suggests that such locations should be adequate for supporting reproducing communities of fish and macroinvertebrate life. Sites attaining QHEI scores of greater than 80 are generally believed to contain exceptional habitat conditions for warmwater communities.

The following table has been prepared to assist with determining the relationship between habitat conditions (measured by the QHEI) and macroinvertebrate community performance (measured by the Cumulative Index Value), at each of the reference stations on selected rivers.

**Table 3. Little Miami River 2000 QHEI & SQM Assessment Data**

Reference Station	QHEI	Attainment Status	2000 Average CIV	SQM Assessment
RM 8.1	84	FULL	28	EXCELLENT
RM 16.9	78	FULL	31	EXCELLENT
RM 28.0	82	FULL	30	EXCELLENT
RM 43.6	84	FULL	26	EXCELLENT
RM 51.3	84.5	FULL	24	EXCELLENT
RM 62.7	*	*	*	*
RM 68.5	*	*	*	*
RM 74.7	*	*	*	*
RM 83.1	*	*	*	*
RM 93.4	*	*	*	*

# Appendix

## Stream Quality Monitoring Data by Monitoring Station

2008 CIVs Monitoring Stations																			
LITTLE MIAMI RIVER																			
RM	DATE	W P	M F	S T	D O	C D	R I	O S	D A	D R	C R	B L	C F	S C	S W	B L	A W	M I	P S
8.10	6/28/2008	A	A			C	A	A				A					A		
8.10	8/24/2008	A	B		A	C	B	C	A	A		B				B	A	A	C
8.10	10/18/2008	A	A	C		B	A	C	A	A	A	A				B			
16.90	6/28/2008		A	A		B	A	C								B	A		A
16.90	8/24/2008	A	C		A	C	B	C	A	B		A		A		B	C	C	C
16.90	10/18/2008	A	B	B		C		C	B	A		A		C					A
28.00	7/1/2008	A	A			C	A	B		A		A					A		
28.00	8/20/2008	A	A			B	B	B				B		B			B		
28.00	10/2/2008	A		A		C	A	C	B	A	A	A		A				A	
37.20	5/1/2002	C	B	B		A	B	B	A	A	A	A		A			B	B	A
37.20	9/18/2008	B	A	B		C	B	A	A	A		A	A	A			B	B	A
37.20	10/3/2008	A	B	B		C	A	A	A					B			B		A
43.60	7/19/2008	B				C	B	B	A				A				A	A	A
43.60	9/30/2008	A	A			B	A		A			A	A	A	A		A	A	
43.60	10/16/2008	A	A			B	A	A		A		A		A	A		A	A	
51.30	6/25/2008																		
51.30	7/6/2008	B	B			B	A	C		A			A	A	A	B	A		
51.30	10/4/2008	A	C			B		C	A	A	A			A	A				A
62.70	7/5/2008		A			B				A			A					A	
62.70	9/5/2008		A			B	A		A			A	A	A				A	
62.70	10/14/2008		A			B	A	B	A			A		A			A		A
68.50	2/8/2008	B	B			A	A	B										A	
68.50	7/11/2008	A				A		B		A			A				A	B	
68.50	9/18/2008	B	C	A		A		A	A			B	A		A	A	A		
74.70	7/11/2008		B			C				A			B				A	A	
74.70	9/16/2008	A	B	A		C		B	A				A		A	A			
74.70	10/23/2008	A	A			B		B	A			A	A		A		A		
83.10	1/8/2008	A	B	A		B	A	A					B						
83.10	5/30/2008	A	B	B		A		A	A				A		A		A	A	
83.10	9/18/2008		B			B	A	A				A	A	A					
94.30	5/30/2008	B	B	B		A	B	B	A	A	A	A	A		A		A	A	A
94.30	8/6/2008	A		B	A		B	A				A			A		A	A	A
94.30	9/18/2008	A	A		A	A	A	A				B	A				A	A	
94.30	10/3/2008	A	A	A	A	A	A	A				A	A		B		B		A

THE UNIONIDAE AND CORBICULIDAE OF THE LITTLE MIAMI RIVER  
SYSTEM IN SOUTHWESTERN OHIO

Michael A. Hoggarth<sup>1,2</sup>

**ABSTRACT** -- This report provides the first comprehensive account of the Unionidae, or pearly freshwater mussels, of the Little Miami River and its larger tributaries. One hundred and five sites were sampled from the Little Miami River, the North Fork, Caesar Creek, Todds Fork, and the East Fork between 12 May 1990 and 11 August 1991. Thirty-eight species of unionid molluscs and *Corbicula fluminea*, the introduced Asiatic clam, were collected. Specimens of four Ohio Endangered species were discovered (*Quadrula nodulata*, *Pleurobema clava*, *Villosa fabalis* and *Villosa lanosa*). Living specimens of each of these species, except *P. clava*, were found. Furthermore, four species designated as threatened in Ohio (*Obliguaria reflexa*, *Truncilla donaciformis*, *Ligumia recta* and *Epioblasma triquetra*) and all of the unionid taxa designated as special interest (*Anodonta suborbiculata*, *Simpsonaias ambigua*, *Cyclonaias tuberculata*, *Pleurobema sinuata*, *Truncilla truncata* and *Lampsilis fasciola*) were represented in this fauna. This is the first record of *A. suborbiculata* for any tributary of the Ohio River in Ohio. The above listed endangered, threatened, and special interest species represented 3.4% of the 6677 specimens of bivalves found during this study. All but *P. clava*, *L. recta* and *C. tuberculata* were found to have extant populations in the system. This fauna has proven to be one of the most diverse unionid faunas in the state, both in terms of species richness and numbers of individuals.

**Key words:** Unionidae, Corbiculidae, Little Miami River, Ohio.

INTRODUCTION

The collection of freshwater mussels (Unionidae) from the waters of the Little Miami River has a long history. More than 600 hundred years ago the Fort Ancient People collected unionids for food and discarded innumerable shells (Barber, 1978). Other shells were used as tools and utensils or retained for their aesthetic value. These collections provide our earliest glimpse at the unionid fauna of the river. It is not until the late 19th and early 20th centuries that there is another snapshot of the unionid community of the region.

Whiteaves (1863) provided the earliest lists of the Unionidae for the Little Miami River, and Twitchell collected shells from the Little Miami River and from the East Fork of the Little Miami River around 1900 (Mattox, 1953). Sterki (1907) summarized much of what was known about the distribution of the Unionidae throughout Ohio, including some aspects of that distribution based on shells collected from the Little Miami River (Clark, 1987).

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<sup>2</sup> Present Address: Department of Life and Earth Science, Otterbein College, Westerville, Ohio 43081, U.S.A.

- 41 MAH:1991:26 Little Miami River at SR 126 bridge, 0.4 ml. SE of Miamiville, 4.2 ml. SSW of Loveland, Symmes/Miami Twp., Hamilton/Clermont Co., Ohio. 22 July 1991. M.A. Hoggarth.

<i>Anodonta grandis grandis</i>	4 live, 3 dead, 2 weathered
<i>Lasmigona complanata</i>	4 live, 2 dead, 3 weathered
<i>Lasmigona costata</i>	3 live, 1 dead
<i>Quadrula quadrula</i>	1 weathered
<i>Leptodea fragilis</i>	1 live, 5 dead, 4 weathered
<i>Potamilus alatus</i>	10 live, 2 dead
<i>Truncilla donaciformis</i>	1 live
<i>Lampsilis radiata luteola</i>	3 live, 1 weathered
<i>Lampsilis ventricosa</i>	1 live, 1 weathered

- 42 MAH:1991:29 Little Miami River at SR 28/U.S. Rt. 50 bridge in Milford, 0.8 ml. NE of Terrace Park, Columbiana/Miami Twp., Hamilton/Clermont Co., Ohio. 3 August 1991. M.A. Hoggarth.

<i>Anodonta grandis grandis</i>	1 live, 9 dead
<i>Alasmidonta marginata</i>	4 dead
<i>Lasmigona complanata</i>	1 live, 2 dead
<i>Lasmigona costata</i>	2 dead
<i>Quadrula quadrula</i>	1 dead
<i>Leptodea fragilis</i>	2 live, 11 dead
<i>Potamilus ohioensis</i>	1 dead
<i>Potamilus alatus</i>	2 live, 9 dead
<i>Truncilla truncata</i>	1 dead
<i>Lampsilis radiata luteola</i>	1 dead

- 43 MAH:1991:30 Little Miami River at Newtown Rd. bridge (Bass Island access) to the mouth of the East Fork, 0.8 ml. NNE of Newtown, Columbiana/Anderson Twp., Hamilton/Clermont Co., Ohio. 5 August 1991. M.A. Hoggarth.

<i>Anodonta imbecillis</i>	1 dead
<i>Anodonta suborbiculata</i>	1 dead
<i>Anodonta grandis grandis</i>	2 live, 3 dead
<i>Lasmigona complanata</i>	13 live, 4 dead
<i>Lasmigona costata</i>	1 dead
<i>Quadrula quadrula</i>	2 weathered
<i>Leptodea fragilis</i>	3 live, 8 dead
<i>Potamilus ohioensis</i>	2 dead
<i>Potamilus alatus</i>	3 live, 2 dead
<i>Obliquaria reflexa</i>	1 weathered
<i>Truncilla truncata</i>	1 weathered
<i>Truncilla donaciformis</i>	2 weathered

- 44 MAH:1991:31 Little Miami River at Newtown Rd. bridge (Bass Island access) to SR 125/32 bridge, 0.8 ml. NNE of Newtown, Columbiana/Anderson Twp., Hamilton/Clermont Co., Ohio. 11 August 1991. M.A. Hoggarth, K.L. Cook-Hoggarth and Mark Hoggarth.

<i>Lasmigona complanata</i>	1 live
<i>Amblema plicata plicata</i>	1 live
<i>Quadrula nodulata</i>	1 live
<i>Lampsilis ventricosa</i>	1 live

state endangered

Common Name: "Wartyback"

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## THE LATE PREHISTORIC CULTURES OF THE OHIO VALLEY

by JAMES B. GRIFFIN

*Director, Museum of Anthropology, University of Michigan*

After the decline of the Hopewell culture there can be recognized a period of unknown length during which relatively little cultural progress was made. Actually, this was a period of decline in quite a number of the ceremonial aspects of Indian life as it is revealed by materials placed with the dead and by the type and amount of time spent in the construction of tombs. This is the beginning of Late Woodland, and has been identified from one end of the Ohio Valley to the other. In southern Illinois the materials belonging to this period have been called the Lewis Focus by University of Chicago archaeologists. The Lewis people sometimes made their burials in pits, and at others, placed them under stone slabs with very little associated grave material. They continued to make side-notched and stemmed projectile points, but gradually toward the end of their existence, substituted a small triangular point characteristic of the Mississippi people. Their pottery is a continuation of the old Woodland tradition, but it is markedly thinner than during the preceding Hopewell period and has very little decoration. The old Woodland subconoidal and round-based forms with relatively straight rims continued to be made, but toward the end of the period they began to take on some of the incised decorative techniques which were to become common in the Mississippi period. Also some of the vessel forms, such as plates and bowls, are common in Lewis. They also made a small amount of red-slipped pottery which is related to types in the central and lower Mississippi Valley.

A short distance to the north of the Lewis Focus is the Carbondale area, where a very similar Woodland manifestation has been called Raymond. This, again, is a rather generalized Late Woodland group with very few distinctive characteristics which would serve to identify it. It merges indistinguishably on the north into other Late Woodland material. In southwestern Indiana there is a little-known

Sally Bauer

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From: Ross Hamre  
 Sent: Wednesday, September 16, 2009 4:30 PM  
 To: Sally Bauer  
 Subject: Emailing: Vol. 61, pg 187, Ohio History

Information on archeology of Turpin farm.

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cultural complex, identified almost entirely on the basis of ceramic material to which the name Yankeetown has been given. So far, this is simply a distinctive style of incised and applique pottery which is found in minor percentages, probably as trade ware, in Late Woodland sites in southern Illinois and as far west as Cahokia. Its distribution eastward along the Ohio or into northern Kentucky is not known.

In the Cincinnati area there is a cultural complex which has only recently been recognized as belonging in a period between Hopewell and the later Fort Ancient culture. The recognition of the correct time position of this culture is the result of the excavations of the Cincinnati Museum of Natural History. These excavations were made on the Turpin Farm on the Little Miami River near Newtown, Ohio. Here were recovered both a burial and a village complex which clearly indicate that this Late Woodland group is closely connected with many of the stone slab mounds found along the Ohio Valley, where they were placed on top of bluffs overlooking the main valley or tributary streams. Since the Turpin Farm is well known as a Fort Ancient site, it is suggested that this complex be referred to as Newtown. Many of the human remains in the small stone mound located in the village were in a fragmented condition and scattered, seemingly indiscriminately, in the mound structure. There were also a few flexed Woodland burials and a number of clearly intrusive extended Fort Ancient burials. At this particular site there is little or no indication of a gradual development from the

